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LANDMARKS PRESERVATION
COMMISSION

STAGE Ia ARCHEAOLOGICAL SURVEY
POINT LITTLE BAY DEVELOPMENT
WHITESTONE, BOROUGH OF QUEENS, NEW YORK

BY
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Submitted To
Kiska Developers Inc.

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I INTRODUCTION

This report presents the results of a Stage Ia archaeological documentary study of the Point Little Bay Development site in Whitestone, Borough of Queens, New York City. The study has been performed pursuant to the requirements of the New York State Environmental Quality Review Act, 6 NYCRR Part 617, 1975 (as amended), and Executive Order 91 (Mayor Beame), 1977. In a letter dated September 22, 1988, Mr. Mark London of the Department of City Planning informed the owners of the property that the Landmarks Preservation Commission's initial review determined that the development site had the potential for the recovery of Native American material and requested that a documentary study be conducted.

The present study includes a review of the relevant documentation pertinent to both the history and prehistory of the area, as well as information pertaining to possible changes of grade within the project area. The objective is to assess the likelihood that possibly significant archaeological deposits may be present on the site. A pedestrian reconnaissance of the site was conducted on January 19, 1989.

This study considers the standing structure on the property only insofar as its presence may affect the preservation of any archaeological deposits on the property. The building is a New York City landmark and the impact of the project on the structure is being reviewed by the appropriate New York City agencies.

A. Site Description

The Point Little Bay Development site encompasses Block 4602, Lot 50; Block 4604, Lots 15 and 35 and Block 4574, Lot 110 in the Borough of Queens (see Figures 1, 2 and 2a). A detailed topographic map of the site is included for reference as Appendix C. The site consists of two irregularly shaped parcels separated by 9th Avenue, a mapped but unimproved street. The first (Block 4601, Lot 50) extends approximately 320 feet north-south between 9th and 12th Avenues, and 60-100 feet westward from the shore of Little Bay. The second parcel extends approximately 735 feet north of 9th Avenue to the East River and a maximum of some 310 feet west of the Little Bay shoreline.

The land immediately west of the project area between 9th and 12th Avenues and north of Powells Cove Boulevard contains pool facilities, lawn and parking areas, and buildings associated with high-rise developments. Between 9th Avenue and Powells Cove Boulevard the Totten Street pavement is immediately west of the property line with another high-rise structure west of the street.

Block 4602 contains the lowest-lying portion of the site, and is for the most part covered with weedy growth (see Plate 1). North of Block 4602 the ground elevation generally rises to the north and west. Block 4604 can be divided into three portions according to existing surface conditions. The southern portion of lot 15, extending approximately 130 feet north of 9th Avenue, was apparently the former location of a "playground". There is an intact asphalt pavement noticeable in the eastern portion of this area, although the pavement is covered in many places by a thin layer of soil. A basketball backboard and remains of other equipment is present in this area (see Plate 2). In the western portion of the playground the asphalt has either been eroded or the surface possibly consisted of a different material (e.g. tennis court surfaces). In either case, the gravel bedding for this surface is observable immediately below the present surface soil. North of the remains of the playground an area of trees and brush with some open areas extends northward for some 90 feet to a chain link fence. North of the fence is an asphalt-surfaced parking area which extends northward to the two-story standing structure on Block 4574 (Plate 3). The asphalt surface covers most of the area south and west of the structure with the exception of a few small areas planted with trees and bushes (Plate 4). A concrete pavement covers most of the area east of the structure, with the exception of a "patio" which has a grassy surface (Plate 5).

There is rip-rap and bulkheading along the eastern and northern portions of the site, with the beach below the bulkheading at most locations being approximately five feet below the surface on the landward side of the bulkheading (Plates 6-8). North of 9th Avenue, a small portion of the beach area east of the bulkheading and rip-rap is included within the project area.

It should be noted that, except for Totten Street, the mapped streets are unimproved and terminate within the boundaries of the project site.

B. Site Plan

A copy of the Point Little Bay site plan is included here as Figure 2a. The planned residential development will involve the construction of a 19 story high-rise building built above a two story garage on Block 4604. The existing landmark building on Block 4574 will be restored and the surrounding area landscaped pursuant to a Certificate of Appropriateness which has been approved by the New York City Landmarks Preservation Commission. The present site plan does not include residential construction on Block 4602. This block will be graded and surfaced for use as a parking area.

II DOCUMENTARY RESEARCH

A. Prehistoric Sites

Twentieth century development and land modifications have removed all traces of most of the prehistoric sites which were once located in the northern portion of Queens County. Solecki (1941) notes that "Indian sites...once extended over much of our present shorelines...comparatively little material is secured inland away from an outlet to the sea." Locations of sites in the vicinity of the project which existed prior to land development can be determined by reference to site maps and descriptions dating to the first half of this century.

Parker's (1920) map of sites in Queens (see Figure 3) shows a set of dashes, indicating the presence of "shell heaps or kitchen middens" at Whitestone, west of the Long Island railroad tracks. The Parker map also shows a village and burial site at College Point.

Bolton's (1934) map of sites (Figure 4) shows a number of sites along the north shore, some of which are the same ones previously noted by Parker. Bolton's site #128 at Whitestone was not on Parker's site list, however, although Parker's shell midden notation apparently references the same area. Bolton's description of this site is as follows: "Shell deposits indicate a fishing camp at Whitestone which was situated on the East River, exactly opposite the large Siwanoy village recently explored at Throgs Neck in the Borough of the Bronx." The latter site extended for approximately 1/4 mile along Shurz Avenue near the end of East Tremont Avenue in the Bronx. The area opposite this site is approximately the location indicated on the Parker map and is approximately one mile west of the project area. Bolton's site #129 at College Point is apparently the same one noted in this area by Parker.

Smith (1944; 1950) and Solecki also published maps showing sites in northern Queens (Figures 5-7). These maps and the associated site lists indicate the presence of two sites in the Whitestone area. Smith's (1950) site #20 is identified as the "Wilkins Site". It is described as being located "near the head of a small tidal cove on Fourteenth Avenue, Whitestone, Long Island, within view of the Bronx-Whitestone Bridge" (Smith 1950:177). Solecki also indicates that the site was located at 14th Avenue, Whitestone. Excavations at the site were carried out by Smith and others from the Flushing Historical Society. We were able to locate Smith's field notes from this excavation at the Nassau County Museum. The site was actually located south of 14th Avenue at 142nd Street in College Point, approximately 1.9 miles southwest of the project area. The site was attributed by Smith to the Late Woodland Bowman's Brook Focus. A number of pits were exposed when the area was stripped for construction fill and eighteen were excavated. It is interesting that Smith's notes

indicate that by 1941 nothing was left of this site. However, in 1950 eight additional pits and two burials were uncovered in the same area during house construction.

The second site shown in the Whitestone area is the Clearview site (Smith's site #32). It was also excavated by the Flushing Historical Society in 1939 after it was exposed by grading during the construction of the Cross Island Parkway. It was reportedly destroyed by subsequent construction. The site consisted of a thin shell midden layer and "several bowl-shaped pits" (Smith 195:182). The field notes for this site were not in the possession of the Nassau County Museum. We contacted the Queens Historical Society, which has some of the material formerly in the collection of the now defunct Flushing Historical Society. However, according to Mr. Alexander Katlan, Curator of Collections, none of the field notes from the archaeological excavations are in the possession of the Society.

Smith (1950:182) describes the Clearview site as located "on high ground sloping northeastward towards Little Bay on the East River near Fort Totten". Solecki (1941) notes that it was located on Willets Point Boulevard. Gleason (1964) notes that Indian artifacts were supposedly found on the former Walter Roe farm and a spring was also supposedly located on the property. According to an article in the Long Island Forum (1967), the location of the Roe farmhouse was at Willets Point Boulevard near 201st street. The property identified as "W. Roe" is shown on the 1859 Walling map (Figure 14) near Willets Point Road, which extends along the route of one of the first roads in the area and supposedly follows the route of an Indian trail (Lucas 1962). The location of a spring shown along the shoreline on a map accompanying an 1848 deed (see Figure 13 and below) is in the vicinity of the Roe property. The location of these reported finds is approximately where Solecki's map (Figure 7 - site IV) and the above descriptions indicate the Clearview site to be. The location of the Roe House, and thus the Clearview site, was approximately 1600 feet south of the project area.

We requested the staff of New York State Museum to search their prehistoric site files for listings in the vicinity of the project area. The response to this request is included here as Appendix A. The only site in the Museum's files is the one noted by Parker and discussed above. It is listed as New York State Museum site #4541. The Museum staff also provided an analysis of archaeological sensitivity of the development site based on the similarity of the terrain to that of recorded archaeological sites. They conclude that "the physiographic characteristics of the location suggest a high probability of prehistoric occupation or use...[and that it has a]...higher than average probability of producing prehistoric archaeological data" (see Appendix A). An analysis of the archaeological sensitivity of the project area is presented in Chapter III of this report.

B. Historic Period

1. Early Settlement

At the time of European contact, the northern part of Long Island from the eastern side of the Rockaways and Newtown to the Nesaquake River in Nassau county, including the land later included within the boundaries of Whitestone was the territory of the Mattinecock chieftancy (Bolton 1920; 1922). The Matinecock were part of the Algonkian speaking Lenni Lenape or Delaware group. The Name "Matinecock" supposedly derived from the Algonkinan "Ma-tinne-auck-et" meaning "the place of hills or hills from which to look out" (Wilson n.d.). The principal Matinecock villages in what is now Queens were supposedly at Little Neck and Bayside (Munsell 1882).

The town of Flushing was settled in 1643 by English refugees who had lived in Holland before coming to America. The settlement was named Vlissengen after the Dutch town from which the settlers had emigrated and in 1645 the settlers obtained the first town charter.

In 1683 the Colonial Assenbly divided the province of New York into 12 counties, one of which was Queens. The County was subdivided into five townships, including Flushing. In 1684 agents of the Flushing freeholders, in order to perfect their title, formally purchased from the Matinecock all the land on the north side of Long Island between Flushing Creek and Hempstead (Hazelton 1925; Munsell 1882).

Whitestone was one of the first portions of the town of Flushing to be settled. When the English drove the Dutch from New York in 1664, a few Quaker settlers in Flushing moved to the outlying Whitestone area (Gleason 1964). An 1666 map of the area (Figure 8) shows four houses on the western shore of Little Neck Bay and a fifth somewhat further to the west. This map does not show Little Bay, however, and the location of the houses cannot be determined with accuracy.

2. Revolutionary Period

While there were no battles near Whitestone, there was substantial activity related to the Revolution in the area. At the beginning of the War, a redoubt was located on the East River shore at Whitestone. It had apparently been constructed as early as the French and Indian War, and the American troops may have rebuilt these fortifications in the spring and summer of 1776. After the American defeat in the battle of Long Island, the British incorporated the redoubt into a small fort at the same location (Gleason 1964; Lucas 1962; Munsell 1882). The fort apparently stood until the 1920's and was located at the foot of 160th Stret, approximately 2000 feet west of the project area. (Whitestone Savings and Loan Association n.d.:3). The redoubt is shown on the Taylor and Skinner map of 1781 (Figure 9) and is

also shown on a map accompanying the 1848 Cryder deed (see Figure 13). It also appears to be shown on the shore on the 1904 Belcher Hyde atlas (Figure 10). The position of the redoubt as shown on these maps is approximately at the present location of 160th street as cited above.

After the Battle of Long Island, Flushing was occupied by three British units, the 71st Highlanders and the 71st and 17th Dragoons. Their camp was on a farm along Northern Boulevard between 147th and 156th Street, well south of Whitestone (MacMaster 1961). In October 1776 the British army began to advance again. In preparation for the Battle of White Plains, troops under the command of General Von Heister marched through Flushing to Whitestone Landing on the East River shore (approximately 4000 feet west of the project area) and embarked on 53 flatboats on which they were ferried over the East River to Throgs Neck. After the British army left the Flushing area, it was garrisoned with loyalist troops and Hessians. The 1776 Faden map (Figure 10), which shows the disposition of troops after the crossing, indicates that the 6th, 2nd and 1st Brigades remained encamped between Whitestone and College Points. The location shown is some two miles west of the project area. In 1779, the 38th and 57th British Landgraf Regiment of Hessians and von Huyn's Hessian Regiment wintered 'at Flushing and Whitestone, in cantonments under the command of Major General Von Huyn' (MacMaster 1961:6). The location of these camps is not specifically identified. In 1780, the Whitestone fort was apparently garrisoned by Col. Archibald Hamilton's Loyal Queens militia, and in 1781 Col. Janeke's Hesse-Hanau Jagers and the Brunswick and Anhalt-Zerbst recruits were reported as guarding the shore at Whitestone and Bayside (MacMaster 1961:6). The latter troops probably garrisoned the Whitestone fort, taking over from the American Loyalists.

3. Nineteenth Century Development

At the beginning of the 19th century, there were only a dozen houses and one store in Whitestone (Lucas 1962; Munsell 1882). The area residents at that time owned large tracts of land. By mid-century, however, the large estates had begun to be broken up into smaller tracts. (Lucas 1962). In the mid-century period, also, the first industry began in the area. At this time John Locke, a manufacturer of tin, lacquer and copper ware, moved his factory from Brooklyn to Whitestone. The initial date of the Whitestone factory is given as 1845 (Munsell 1882) or 1854 (Gleason 1964). It employed as many as 150 workers (Gleason 1964). The Locke factory was located at Clintonville Street between 11th and 12th Avenues, approximately one mile west of the project area (Long Island Forum 1967). During the 19th century, also, clay pipes, vases, and urns were manufactured from a deposit of red clay found along the East River. (Gleason 1964; Munsell 1882). The clay deposit was located near a pavilion which stood on the shore west of the project area (Linton n.d.). Other 19th century industrial activity included boat manufacturing, a

box factory, a shipyard, a coal yard and a forge (Lucas 1962:9). The 19th century maps indicate that none of this industrial activity occurred within the project area.

In the 19th century steamboats bringing passengers from New York landed at a dock, sometimes called Keelers dock, which extended some 300 feet into the East River (Lucas 1962). In 1869, the Long Island Railroad tracks were extended to Whitestone, and in 1886 an extension was opened to a depot at the dock. The railroad line was in operation until 1932 (Gleason 1964; Lucas 1962). The maps indicate that the dock and railroad depot were located approximately 4000 feet west of the project area.

The Whitestone post office was opened in 1854, and in 1869 Whitestone became an incorporated village (Hazelton 1925:985). It became part of New York City in 1897 (Lucas 1962). A water works was opened in Whitestone in 1892. Before this it is "reasonable to assume that water for household use was in the land on which the house stood" (Lucas 1962:15). The 1916 Sanborn atlas (Figure 19) indicates that by this date water pipes had been laid to the end of Powell's Cove Boulevard, which at that time was approximately 600 feet west of the Little Bay shoreline.

Around the turn of the century, the Whitestone shoreline was the site of three real estate developments. Beechhurst was developed about 1905 (Whitestone Savings and Loan n.d.:3). It included the area east of Whitestone Point, but did not extend as far as the present project area. Malba was located west of the Bronx-Whitestone Bridge near Powell's Cove and was developed in approximately 1908 (Whitestone Savings and Loan n.d.:3; Gleason 1964). The closest developmnet to the project area was Robinswood. The Robinswood tract was formerly the site of the late 19th Century Tilghman estate (see Figure 16). The 1903 Sanborn map (Figure 17) indicates that by this date the Tilghman house had been removed and the Robinswood Street grid laid out. Robinswood lies south of what is now 12th Avenue and the southern boundary of the project area.

C. Project Area History

The history of land ownership and construction within the project area can be traced by reference to a number of maps, deeds and secondary sources. The point of land in the northern portion of the project area where the East River joins Little Bay is known as Cryder's Point, after a 19th century land owner of this property (see below). This land, as well as the Beechhurst area to the west, was originally known as Trees Neck Meadows and was owned by Samuel Cornell prior to his death in 1781 (Worthington 1937). In 1787 Cornell's heirs conveyed to John Watts a "dwelling house and farm near Whitestone Ferry in Flushing, east by the cove, north by the sound, also 20 acres called Richmond with dwelling" (Cornell 1902). Lawlor (n.d.) mentions that David Ogden "purchased the magnificent estate of 'John Watt, Esq. containing by estimation 224 acres of upland and 24 acres of salt meadow',

although this source dates the land transfer to the period of British occupation during the Revolution, earlier than the Cornell-Watts transfer as reported by Worthington. Worthington (1937) traces the ownership of the property after Samuel Cornell through David Ogden, the Bogart family and Asher Hamlin until it came into the ownership of James Watson Webb in 1835. Worthington does not mention ownership by Watts, however. Despite the discrepancies in the information given by these sources, it is most likely that Cornell, Watts and Ogden all owned the property.

James Watson Webb, who owned the property in 1835, was a newspaper publisher and apparently known as a duelist. He used the property as a country estate (Worthington 1937). According to the latter source the property came into possession of William C. Haggerty in 1848. The 1847 Calvin Smith map (Figure 11) shows two houses east and southeast of the Whitestone dock, which are probably the houses on this property. These may be the same two structures referred to in the 1787 Cornell conveyance.

If Haggerty acquired this property in 1848 he immediately divested himself of a portion of it. A deed dated 1848 (Queens County Deeds, Liber 77, pp. 143-149) records the transfer of a 106 acre tract of land from William Clement Haggerty to John Cryder. The land is described as "part of the tract formerly belonging to James Watson Webb called the Richmond Farm". It is described as bounded "on the North by the East River on the East by Little Bay Side Bay on the South by land now or late of the Widow Powell and on the West by land of John Haggerty". The boundary of the Powell property (the southern boundary of the deeded tract) is clearly shown on the 1852 Connor map (Figure 12a) well south of the southern boundary of the present project. Thus all of the present project area falls within the Cryder property. The map accompanying the deed (Figure 13) shows the Revolutionary War redoubt, a marshy area along the shoreline and a spring in the southeastern corner of the property. However no houses are shown. The structures present on the Haggerty property were apparently west of the area conveyed to Cryder, on the portion of the Farm retained by the Haggerty family. The 1852 Conner map shows the Haggerty property labeled "Spring Lawn". Since the structures shown on the 1847 map were also labeled "Spring Lawn" this confirms that the structures present in the early 19th century were located well west of the project area.

The 1852 map shows that by this date Cryder had constructed a house on the property which he apparently called "Ellerstie". The location of the Cryder house and an outbuilding shown on the map (Figure 12b) are approximately 1200 feet west of the Little Bay shore, and 900 feet west of the project area.

Maps dating from 1859 through 1916 continue to show no structures within the project area. The 1859 Walling map (Figure 14) shows the Cryder and Haggerty houses noted above. The location of the house on the property shown as owned by Stuart Brown is not apparent, but references to the Stuart Brown property in a 1915 deed (Queens County Deeds, Liber 2014, p. 67) indicate that it

was south of the project area. The 1873 Beers atlas (Figure 15) shows two houses on the Cryder property. The westernmost is shown east of the line of the mapped street labeled 16th Avenue and the easternmost is at the end of 17th Avenue. The street shown as 16th Avenue on the Beers map is now 160th Street, and 17th Avenue was at about the line of the present 163rd Street. These structures are approximately 1500 and 2200 feet west of the Little Bay shoreline and west of the project area. The easternmost of the two houses was probably the same structure shown on the earlier maps. It should be noted that Figures 15-17 show a street grid with the avenues oriented north-south and the streets oriented east-west, opposite to the arrangement of the street grid which was actually adopted. The street shown on these maps as 33rd Street is at the approximate location of the present 9th Avenue.

By 1891 the Cryder family had apparently begun to divest itself of a portion of the original 106 acre property and a structure had been constructed by F.D. Blake east of the two Cryder houses (see Figure 16). The Blake house was located approximately 900 feet west of the Little Bay shoreline.

By the first decade of the twentieth century (see Figures 17 and 18) additional ownership changes had occurred and new construction had taken place in the vicinity of the project area, but not within it. Only the westernmost of the two Cryder houses was still owned by a member of the family. A new house, constructed between 1891 and 1903 by G.W. Cole, was located approximately 650 feet west of the Little Bay shoreline. The western boundary of the project in this area is located some 285 feet west of the shoreline. The 1904 Belcher Hyde map shows a house and outbuildings belonging to John Fallon located south of Powells Cove Boulevard. The easternmost outbuilding was located south of the Cole house and west of the project area. The Fallon buildings were apparently newly constructed in 1904 as they are not shown on the 1903 Sanborn map. The 1904 map indicates that the only roads actually present near the project area were Cryders Lane (the present 162nd Street) and the eastern portion of Powells Cove Boulevard.

The 1903 and 1904 maps indicate that by this time the land south of Powells Cove Boulevard had passed out of the ownership of the Cryder family. A 1915 deed (Queens County Deeds, Liber 2014, p. 66) transferred this portion of the former Cryder property, including the area within the Robinswood development, from the Mercantile Land and Improvement Company to Samuel A. Megrath.

In 1916, the northern portion of the Cryder farm, formerly owned by the Cole family, was transferred by the estate of the late William Washington Cole to Granville A. Beals. However, the former Cole house is still shown on the 1916 Sanborn map (Figure 19). By this date, a pier and bath house had been constructed on the East River shore east of the former Cole house. This pier was located some 50-100 feet west of the project area boundary.

The 1926 Belcher-Hyde-Atlas (Figure 20) shows the first structures to be constructed within the project area. The building shown north of Powells Cove Boulevard is the presently standing Landmark structure which was built in 1924. The second structure was located on Block 4604, Lot 35, approximately 60-120 feet south of Powells Cove Boulevard and 60-100 feet east of Totten Street. It is shown as a brick building having two sections of one and 1 1/2 stories with a detached garage to the south.

The 1942 Sanborn map (Figure 21) shows a one story structure on Block 4604 lot 35 in approximately the same location as the building shown on the 1926 map. The 1950 Sanborn map (Figure 22), however, shows this building in a configuration similar to that shown on the 1926 map. The structure is no longer standing.

The 1942 and 1950 maps also show two small one story structures along the shore approximately 265 feet south of the line of Powells Cove Boulevard. This is the location of the former "playground" noted during the pedestrian reconnaissance (see Chapter I). The concrete pier northeast of the Landmark structure was apparently built between 1926 and 1941.

It should be noted that as late as 1950 (see Figure 20) 9th Avenue ended at 166th Street. Tenth Avenue is shown as extending to the shoreline but the street had not been opened. Twelfth Avenue also ended at 166th Street at this time. This street, which forms the southern boundary of the project area, was subsequently cut through to the shoreline along the northern boundary of the developed Robinswood area.

D. Landfilling and Disturbance

Two borings have been taken within the project area. The boring logs and engineers report are included here as Appendix B. The boring locations are shown on Figure 2. The engineers' report indicates that the first boring location, in Block 4602 south of 9th Avenue, contained approximately 10 feet of fill. The second location, in Block 4604, Lot 35, south of Powells Cove Boulevard, contained approximately three feet of fill. Examination of the surface in Blocks 4602 and 4604 during the pedestrian reconnaissance suggests that fill has, in fact been deposited in these areas. It should be noted that the presence of 10 feet of fill at the first boring location would suggest that the original surface was below the high water mark. This may be due to the former presence of a tidal inlet near the boring location (see Figure 23).

Another indication of grade changes in the project area is the difference in elevations as shown on the 1931 Borough of Queens topographic map (Figure 23) and on the site survey (Appendix C). The topographic map shows the 10 foot contour extending approximately along the line of Powells Cove Boulevard and the five foot contour just north of the line of 9th Avenue. The site

survey indicates that the present ten foot contour is slightly to the south of the 1931 contour in the western portion of the project area, suggesting at least some filling in this area. Only a small portion of the area south of 9th Avenue which is shown below the five foot contour on the 1931 map is still below this contour indicating that fill has been deposited throughout this area. Comparison of the topographic maps indicates that much of the landfilling in the project area probably occurred since 1931. However, some earlier filling may have taken place at the time of the construction of the house which formerly stood on block 4604, lot 35. *

North of Powells Cove Boulevard the land rises to a local height-of-land which overlooks the junction of Little Bay and the East River at Cryders Point. The overall topography of the area suggests that this is a natural rise. The 1931 topographic map shows two small areas above the 15 foot contour, one of which would have been located within the project area. The present elevations in this area are ca. 14.3 feet and there are no elevations above 15 feet. This suggests the likelihood that there was some surface grading in the area, probably at the time of construction of the building on block 4574.

The historic documentation indicates that there has been no construction in much of the project area. The major sources of disturbance would have derived from the construction of the two buildings shown on the 1926 map. According to Mr. H. Mutus of Kiska Developers, Inc. (personal communication), the standing structure on Block 4574 has a seven foot deep basement. This was confirmed during the pedestrian reconnaissance. In addition, the "patio" area shown east of the structure was formerly the location of a swimming pool (personal communication, H. Mutus, Kiska Developers). Any pre-existing archaeological deposits at the location of the structure and the adjacent pool would have been destroyed. Some surface disturbance in the immediately surrounding area would probably have been caused by grading associated with the construction of the building as noted above.

In block 4604, lot 35, disturbance may have occurred at the location of the structure shown on the maps dating to 1926-1950. It can be assumed that the fill indicated by the boring in this area was deposited prior to construction of the house. The maps do not indicate that this structure had a basement. However, this may be inaccurate as the standing structure on block 4574, which has a basement, is also indicated as without one on these maps. It is uncertain whether construction would have disturbed the ground surface beneath the fill.

During the pedestrian reconnaissance we noted the presence of what appeared to be a portion of a swimming pool located near the shore on block 4604, lot 35 east of the house site (see Plates 9 and 10). The east side of the pool is approximately 16 feet west of the retaining wall. Most of the pool is filled with earth but the topmost few inches of the southeastern portion are visible. The walls are lined with small blue-glazed ceramic tiles and a

concrete walk appears to surrounded the pool. A drain, apparently to return overflow to the pool, was present in the southeast corner. The pool measures approximately 18 feet east-west. The visible portion of the eastern edge is approximately 35 feet in length but is obscured by surface soil in the area immediately south of the chain link fence bordering the asphalt parking area. Construction of the pool may have disturbed the surface underlying the fill.

The site plan indicates the presence of a 12" sanitary sewer extending approximately 90 feet east of Totten Street along the line of Powells Cove Boulevard. An 18 inch sanitary sewer extends along the western boundary of the project area in the southern portion of block 4602, lot 50. It is possible that the construction of these utilities disturbed the surface underlying the fill.

III CONCLUSIONS AND RECOMMENDATIONS

A. Archaeological Sensitivity

The results of the documentary research indicate that the sensitivity of the Point Little Bay project area for the presence of possibly significant historic period archaeological deposits is low. All of the industrial development, Revolutionary War activity and early residential sites were well to the west of the project area. The data indicate that no structures were built on the site prior to the 1920's. *

The data suggest, however, that the sensitivity of the project area as a location for prehistoric activity is high. Although the closest documented sites were located approximately 1600 feet south (the Clearview site) and one mile west (unnamed site reported by Parker and Bolton) of the project area, the Queens north shore in general has been noted as the location of many prehistoric sites. The fact that the Wilkins and Clearview sites were not reported in the professional literature until they were exposed by construction suggests the possibility that all of the prehistoric sites in the area have not been identified. *

The archaeological sensitivity of the project area can be further assessed by considering its topography and physiography in relation to the characteristics of known sites and the requirements of prehistoric inhabitants of the area. According to Smith (1951) coastal New York prehistoric archaeological sites are usually found on high ground near tidal inlets and on the margins of bays. This site location patterning and Soleki's (1941) observation that prehistoric sites extended "over much of the Queens shoreline" is reflected in the site maps included here as Figures 3-7. Although actual occupation areas are usually located on higher ground, the author's examination of two sites located in southern Queens and in Nassau County (Pickman 1980a;1980b) suggests that low-lying areas bordering higher ground were utilized for the disposal of refuse and that midden deposits can be found in these lower areas.

The Borough of Queens topographic sheet (see Figure 23) and a visual examination of the site indicate that the portion north of Powells Cove Boulevard contains a local height-of-land. The topographic map (Figure 23) also shows what appears to be a small tidal inlet immediately north of the line of 10th Avenue (between the present locations of 9th and 12th Avenues). The inlet is shown as a marsh area on the U.S.G.S. sheet dated 1900 (see Figure 24) and on the map accompanying the 1848 deed to the Cryder property (see Figure 13).

The high ground north of Powells Cove Boulevard may have been an attractive location for prehistoric shellfish gathering, fishing and/or hunting camps. Since it overlooks both Little Bay and the East River, this high ground would also have been a vantage point

for observing approaching water traffic. The presence of a marshy tidal cove area to the south may have attracted shore birds and migratory fowl. It would also have provided an ecological zone boundary attractive as a browse area for white-tailed deer, and the higher ground may have been a vantage point for observing game. It is less likely that the project area would have been an attractive location for larger, permanent occupation sites since there is no documented source of water nearby. The nearest were a stream approximately 3500 feet west of the site (see Figure 12a) and a spring approximately 1300 feet to the south (see Figure 13). These water sources were near the two prehistoric sites noted above.

The portions of the project area most likely to have contained archaeological deposits associated with any such occupations would be the higher ground north of Powells Cove Boulevard (Block 4574) and the adjoining lower areas between Powells Cove Boulevard and 9th Avenue (Block 4604) where refuse deposits may have accumulated. The ground north of 9th Avenue bordering the former tidal inlet could also be a possible location of camp sites. The former location of the tidal inlet south of 9th Avenue (Block 4602, Lot 50) would be a less likely location of deposits. However, it should be noted that during the early prehistoric period, when sea levels were lower, this area would have been dry land and therefore a possible location for prehistoric occupation. As noted in the State Museum analysis (Appendix A), prehistoric sites have been found submerged below the present water table.

The archaeological sensitivity of the portion of the site north of Powells Cove Boulevard (Block 4574) has been reduced due to the construction of the existing building. A portion of any site which may have been present on the high ground on Block 4574 would have been destroyed by excavation for the foundation and basement of this structure. The surrounding surface area would most likely have been disturbed during the construction of the building. However, any soil disturbed by grading which underlies the existing paved surface should retain indications of any prehistoric site which may have been present in the area and portions of the associated archaeological deposits could remain intact.

Any archaeological deposits in the lower-lying area south of Powells Cove Boulevard could have been preserved under fill with the possible exception of the location of the former house site and the swimming pool on Block 4604, Lot 35.

B. Possible Impacts

Archaeological deposits which may underlie the landfill on Block 4604 would be destroyed by the the proposed residential construction. Deposits underlying the asphalt surface on Block 4574 could be disturbed by landscaping or other activities (e.g. installation of new utilities connections) associated with the

restoration of the standing structure. It is unlikely, however, that the construction of a parking area on Block 4602 would result in the disturbance of any archaeological deposits underlying the landfill.

C. Recommendations

We recommend that limited sub-surface testing be conducted prior to the beginning of construction in order to determine whether or not any prehistoric deposits are present in the project area. This recommendation is based on the overall archaeological sensitivity of the north shore of Queens County, and the attractiveness of the project area as a possible locus of prehistoric camp sites. Although a portion of the project area has been disturbed, other portions may contain, preserved beneath fill, some of the little remaining undisturbed land along the shore. Since there are few prehistoric sites remaining in New York City, the possibility of such deposits being located on the site should be eliminated before construction proceeds.

Since Block 4602, Lot 50 is considered the least archaeologically sensitive portion of the site and the current site plan indicates that any deposits underlying the fill on this block would not be adversely impacted, the testing program outlined below assumes that tests would be conducted only on Blocks 4604 and 4574.

Sub-surface tests would need to penetrate fill deposits on Block 4604 as well as surface layers of asphalt or concrete in most portions of Block 4574 and the northern portion of Block 4604, Lot 35. Except for the small areas of planted trees and shrubs west and immediately north of the standing structure on Block 4574, manual shovel testing of the project area is not feasible.

We recommend that a series of archaeological borings be used to penetrate beneath the fill deposits and also beneath the asphalt/concrete surface and underlying bedding. The borings should utilize a large diameter split spoon and continuous sampling from the surface to the depth at which sterile sub-soil is encountered. An archaeologist should be present to screen all samples to detect the presence of artifacts. Such borings could detect any intact ground surfaces present beneath the fill and any shell midden deposits and/or substantial artifact densities present on ground surfaces. The borings should be placed at intervals of approximately 50-100 feet. An estimated total of 20-30 borings would be required in order to thoroughly test the project area. The estimated depth of these borings would range from approximately three to fifteen feet below the surface. The borings should be conducted far enough in advance of construction to permit any necessary additional archaeological evaluations in the event that the boring results indicate the presence of prehistoric deposits. If archaeological borings were conducted at the same time as the additional engineering borings referenced in Appendix B, the cost of equipment mobilization would be spread over both sets of borings, reducing archaeological costs.

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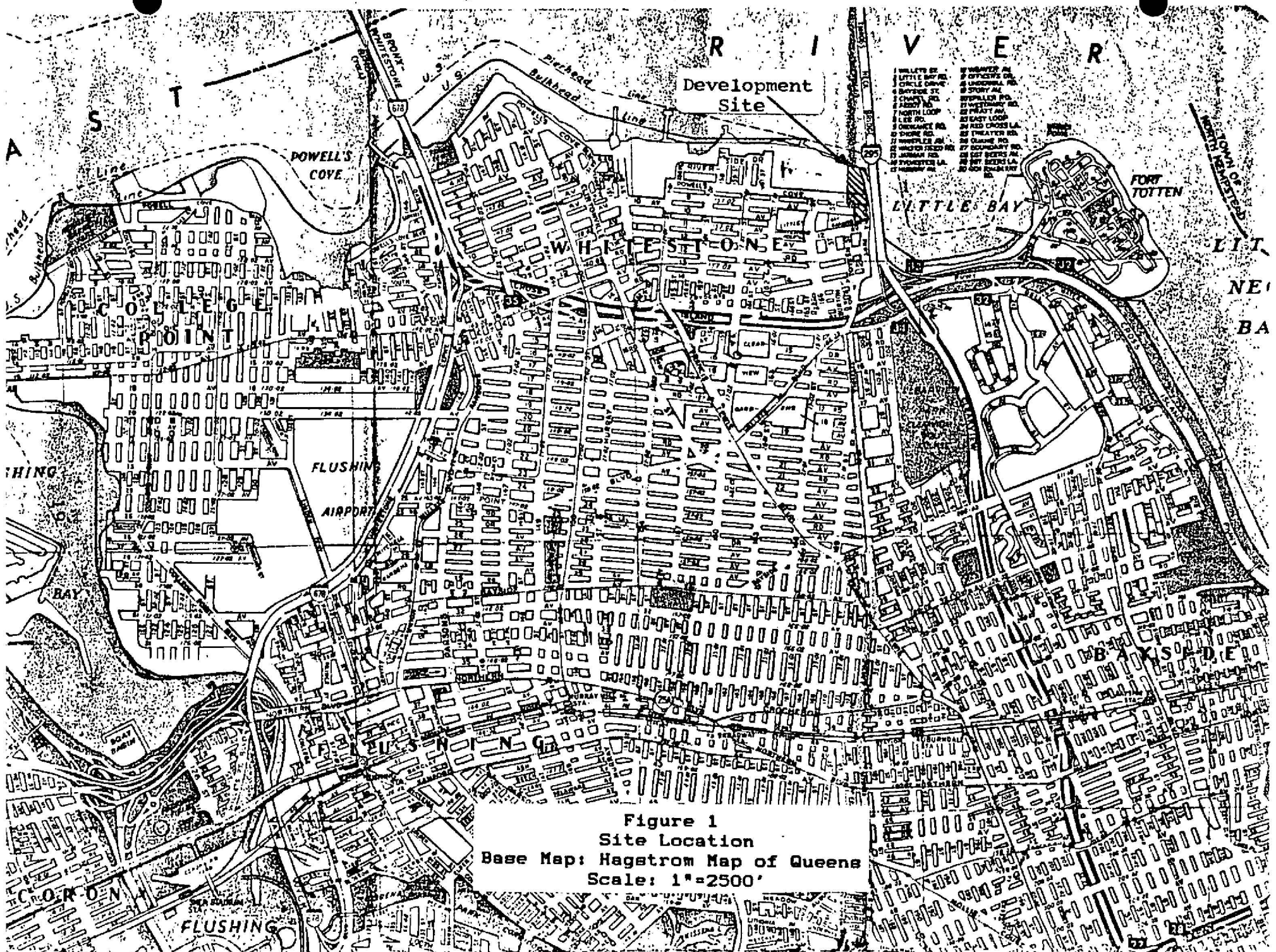
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FIGURES



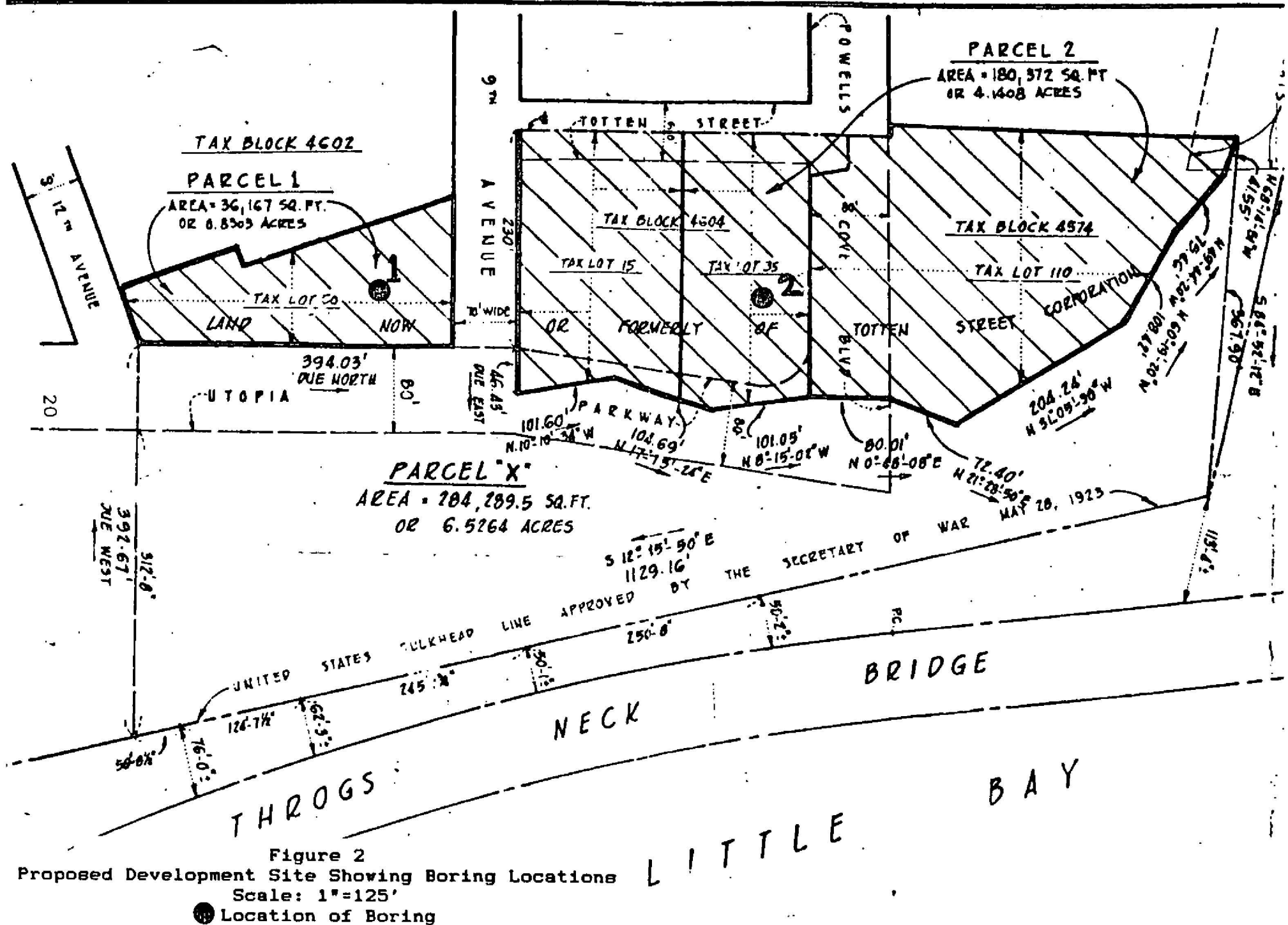
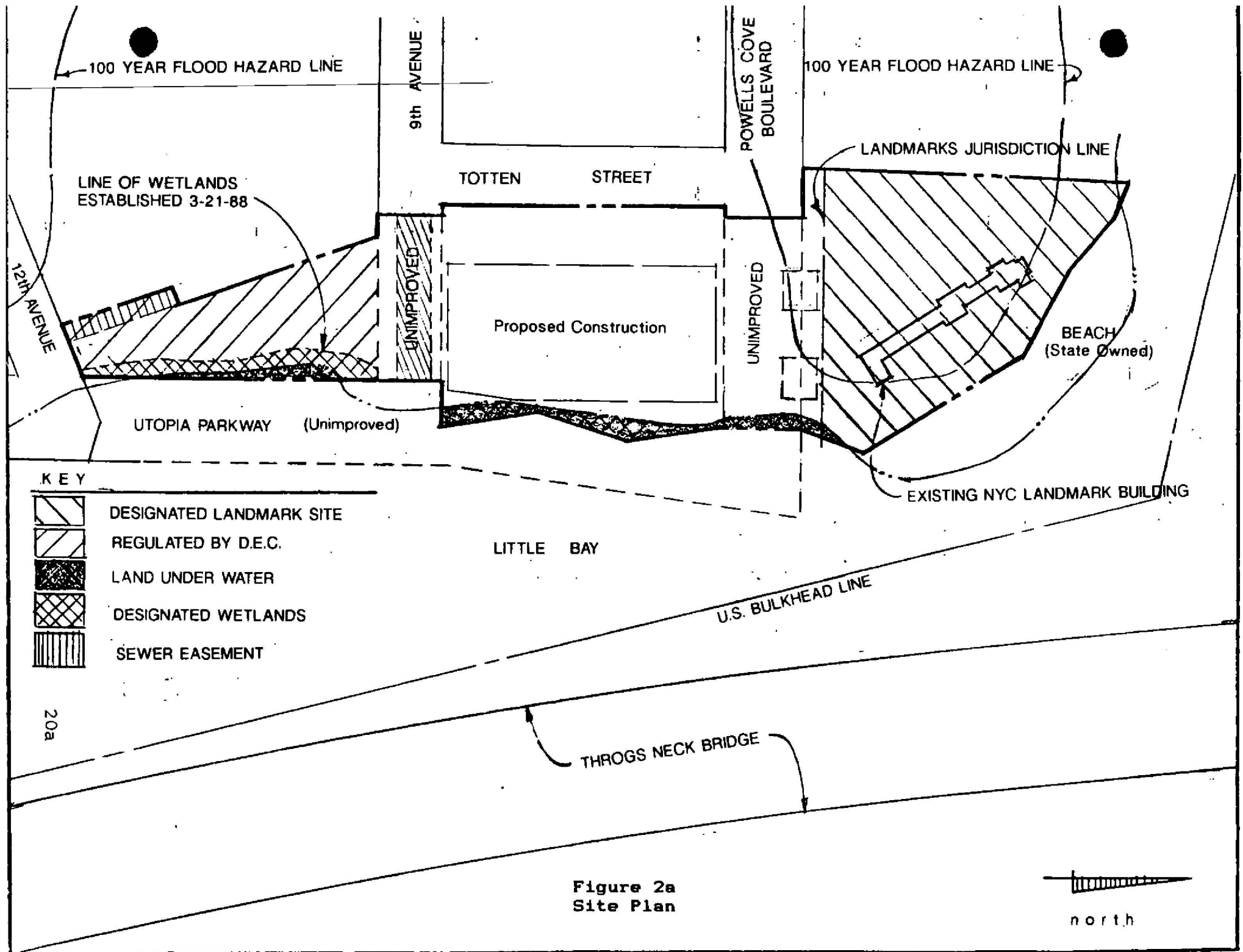


Figure 2
 Proposed Development Site Showing Boring Locations
 Scale: 1"=125'
 ● Location of Boring



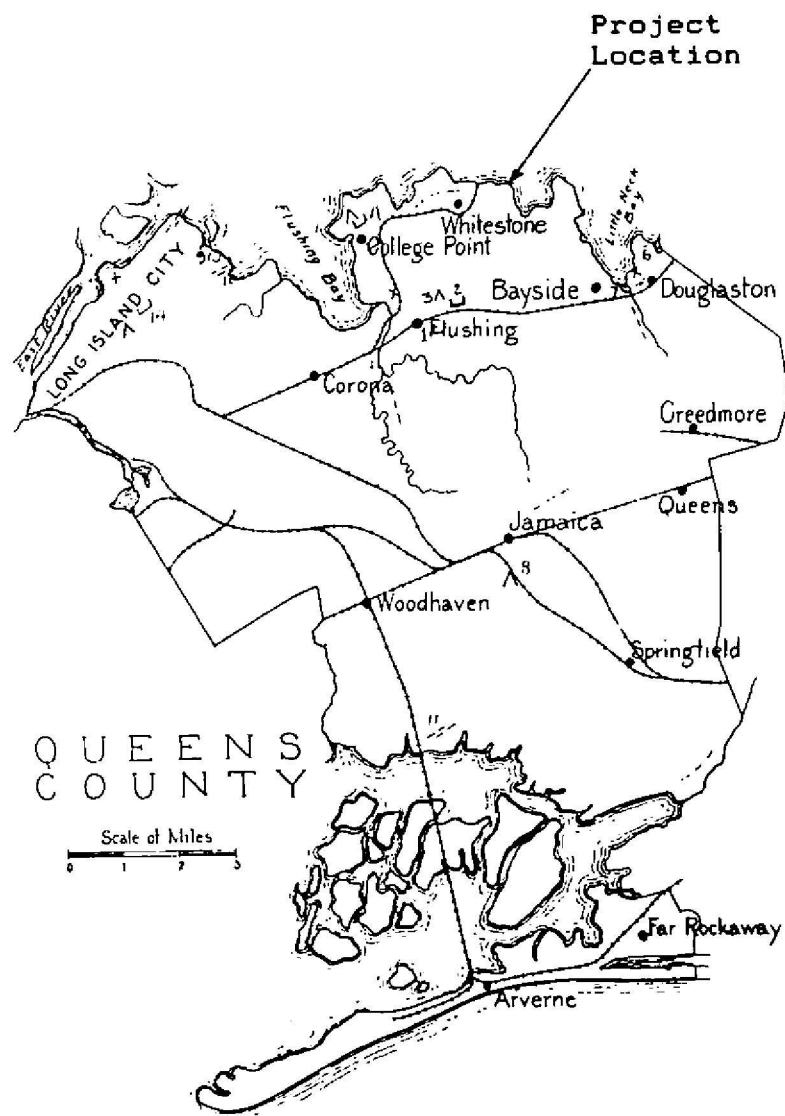
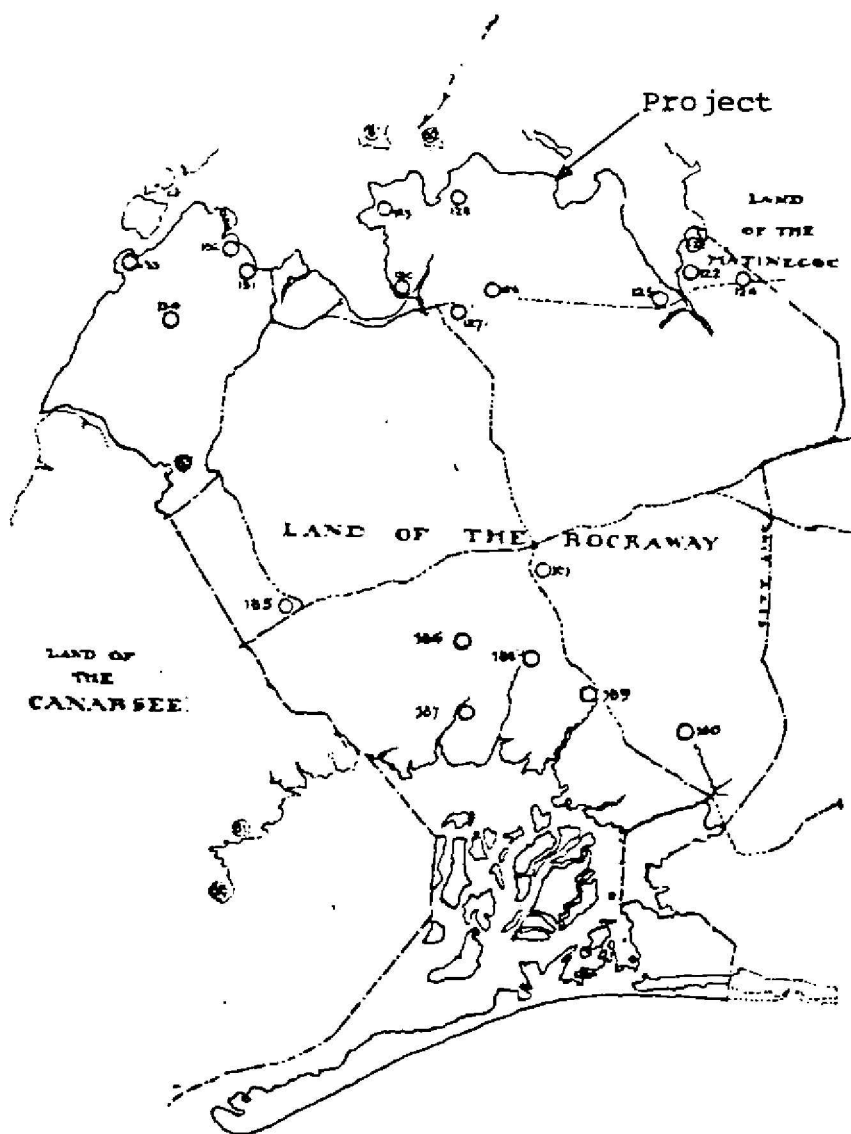


Figure 3
Prehistoric Sites in Queens
 Source: Parker (1920: Plate 208)



INDIAN SITES IN THE BOROUGH OF QUEENS

Figure 4
Prehistoric Sites in Queens
Source: Bolton (1934:148)

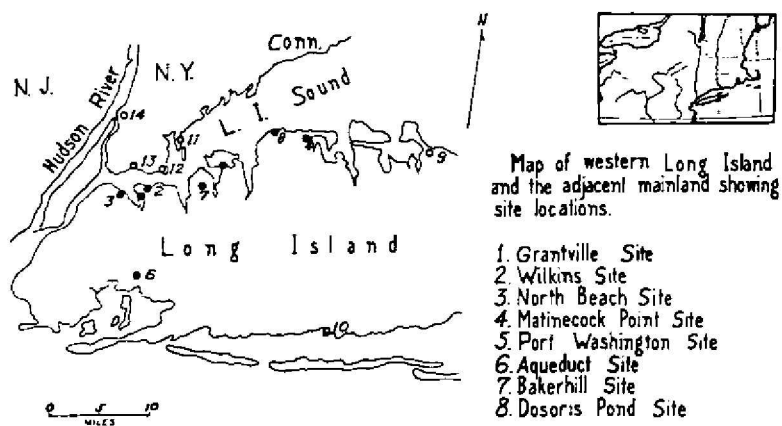


Figure 5
Prehistoric Sites in Queens
 Source: Smith (1944)

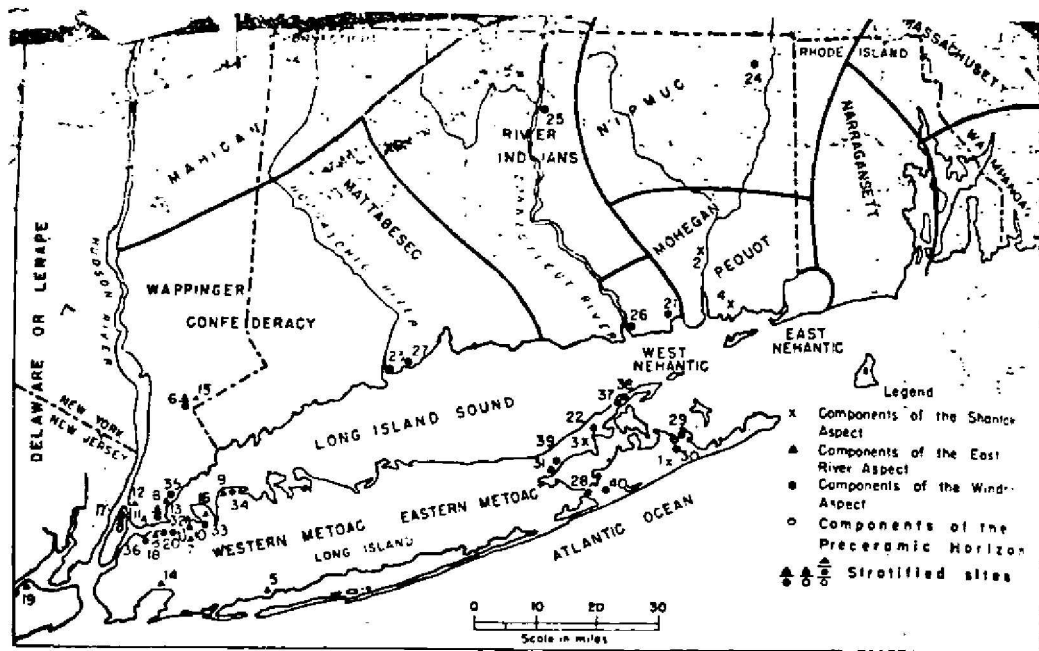
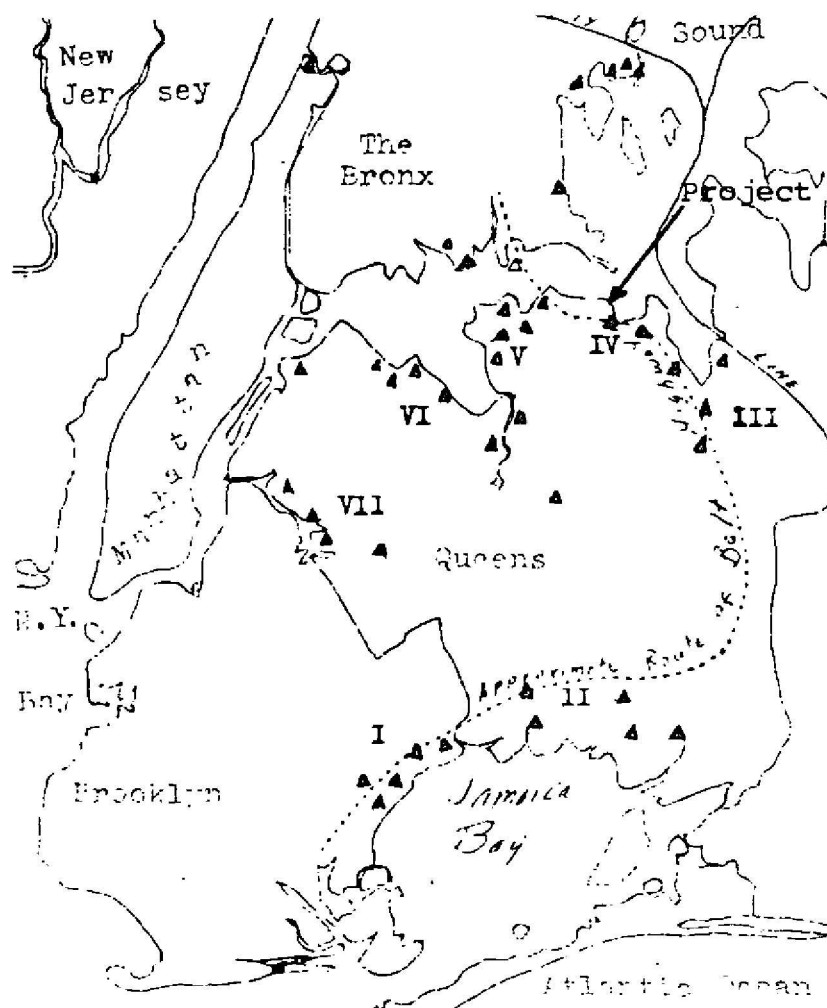


FIG. 1. Archaeological sites and tribal groups in the vicinity of Long Island Sound.

Sites 1-4, Shantok aspect; Sites 5, 7, 9-16, 20, East River aspect; Sites 21-40, Windsor aspect; Site 6, stratified, East River over Preceramic; Site 8, stratified, East River over Windsor; Site 17, stratified, East River over Windsor over Preceramic; Site 18, multi-component, probably stratified, East River over Preceramic.

1, Pantigo Site, East Hampton, N. Y.; 2, Fort Shantok, Montville, Conn.; 3, Fort Corchaug, Cutchogue, N. Y.; 4, Noank Site, Groton, Conn.; 5, Fort Massapeag, Massapequa, N. Y.; 6, Finch Rock House, Armonk, N. Y.; 7, Soundview Site, Great Neck, N. Y.; 8, Throgs Neck Site, Bronx, N. Y.; 9, Dosoris Pond Site, Glen Cove, N. Y.; 10, Baker Hill Site, Great Neck, N. Y.; 11, Clasons Point Site, Bronx, N. Y.; 12, Van Cortlandt Site, Bronx, N. Y.; 13, Pelham Knolls Site, Bronx, N. Y.; 14, Aqueduct Site, Aqueduct, N. Y.; 15, Helicker's Cave, Armonk, N. Y.; 16, Port Washington Site, Port Washington, N. Y.; 17, Dyckman Street Site, Manhattan Island, N. Y.; 18, Grantville Site, College Point, N. Y.; 19, Bowmans Brook Site, Staten Island, N. Y.; 20, Wilkins Site, Whitestone, N. Y.; 21, Niantic Site, East Lyme, Conn.; 22, Old Field Site, Southold, N. Y.; 23, Laurel Beach (Eagle Hill) Site, Milford, Conn.; 24, South Woodstock (Basto) Site, South Woodstock, Conn.; 25, South Windsor Site, South Windsor, Conn.; 26, Old Lyme (Black Hall) Site, Old Lyme, Conn.; 27, Indian River Site, Milford, Conn.; 28, Sebonac Site, Shinnecock Hills, N. Y.; 29, Squaw Cove Site, on Three Mile Harbor, N. Y.; 30, Soak Hides Site, on Three Mile Harbor, N. Y.; 31, Aquebogue Site, Aquebogue, N. Y.; 32, Clearview Site, Whitestone, N. Y.; 33, Manhasset Rock Site, Manhasset, N. Y.; 34, Matinecock Point Site, Locust Valley, N. Y.; 35, Pelham Boulder Site, Bronx, N. Y.; 36, North Beach Site, La Guardia Field, N. Y.; 37, Orient Site 1, Orient, N. Y.; 38, Orient Site 2, Orient, N. Y.; 39, Jamesport Hill Site, Jamesport, N. Y.; 40, Southampton Site, Shinnecock Hills, N. Y.

Figure 6
Prehistoric Sites on Long Island
Source: Smith (1950)



INDIAN VILLAGE SITES: Triangles on diagram indicate sites explored by Committee on American Anthropology of the Flushing Historical Society.

Figure 7
Prehistoric Sites in Queens
Source: Solecki (1941)

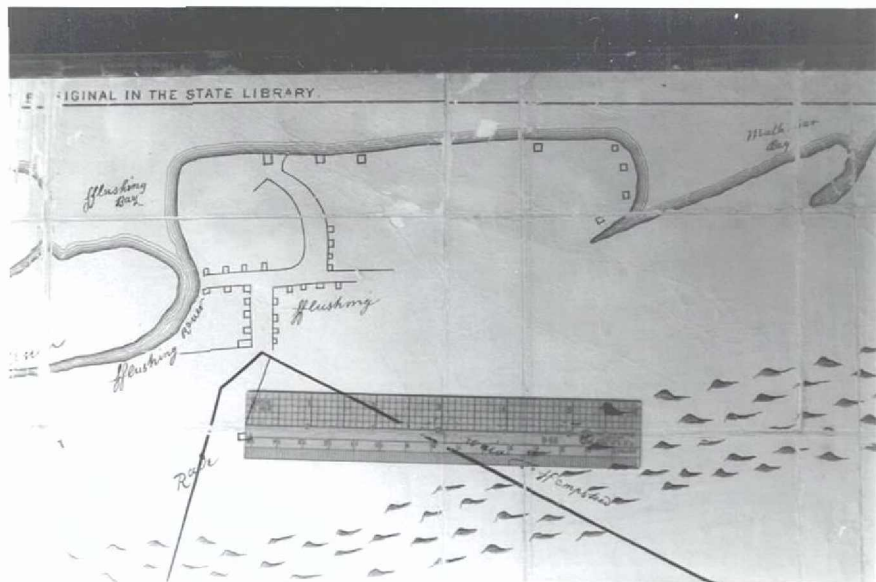


Figure 8
Source: Hubbard 1666
Scale: 1:35500

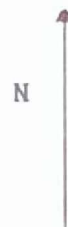




Figure 10
 1776 Faden Map
 Source: Lucas 1962

Project Location

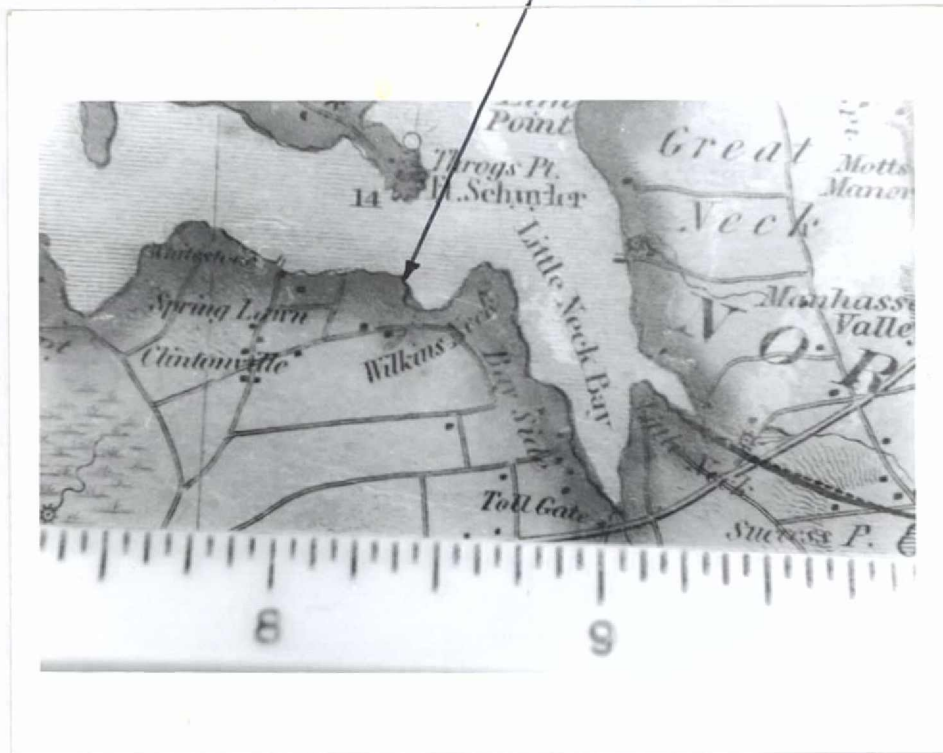


Figure 11

Source: J. Calvin Smith (1847)

Scale of Original: 1"=2 1/2 miles

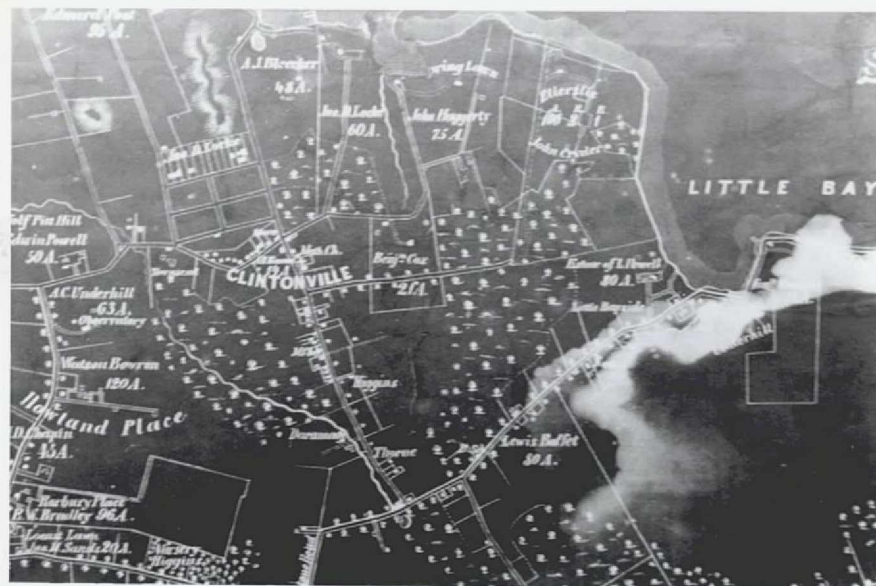


Figure 12a
Source: Connor (1852)
Scale of Original: 1"=ca. 1650'

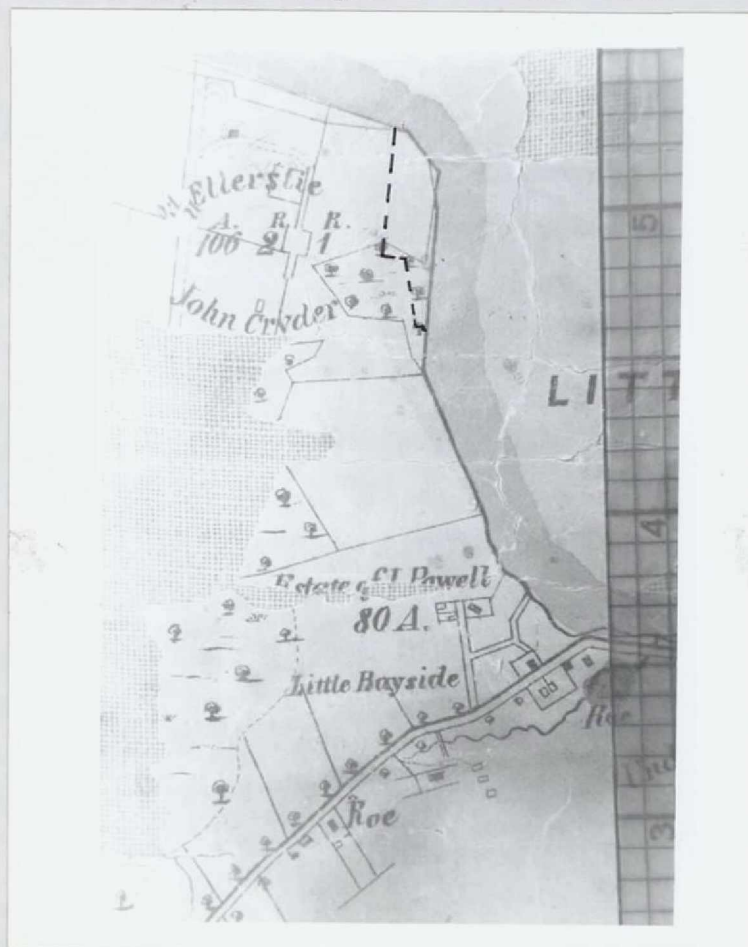


Figure 12b
Source: Connor (1852) - detail
Scale of Original: 1"=ca. 1650'
|---| Approximate Project Area Boundaries

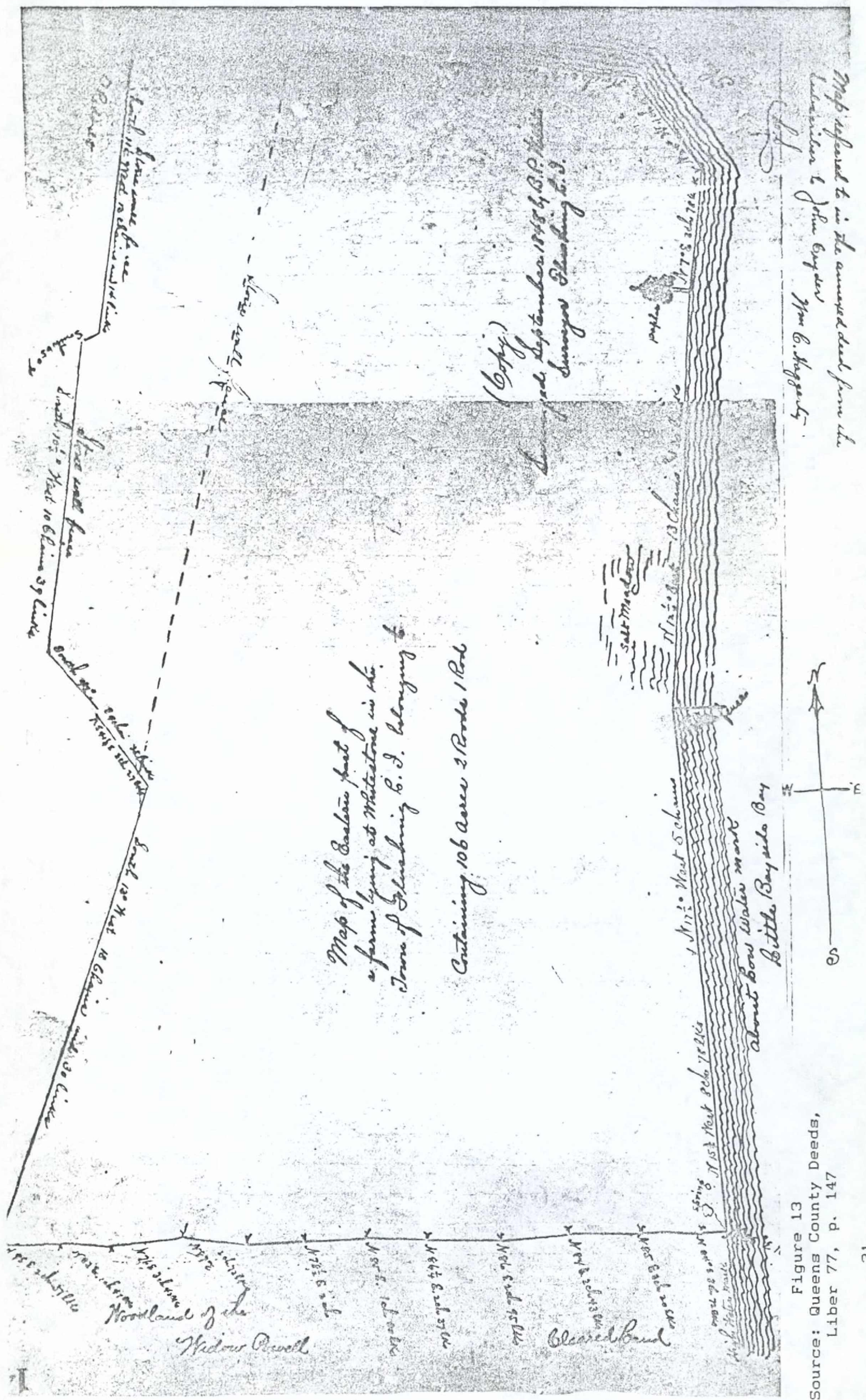


Figure 13
Source: Queens County Deeds,
Liber 77, p. 147

Project Location

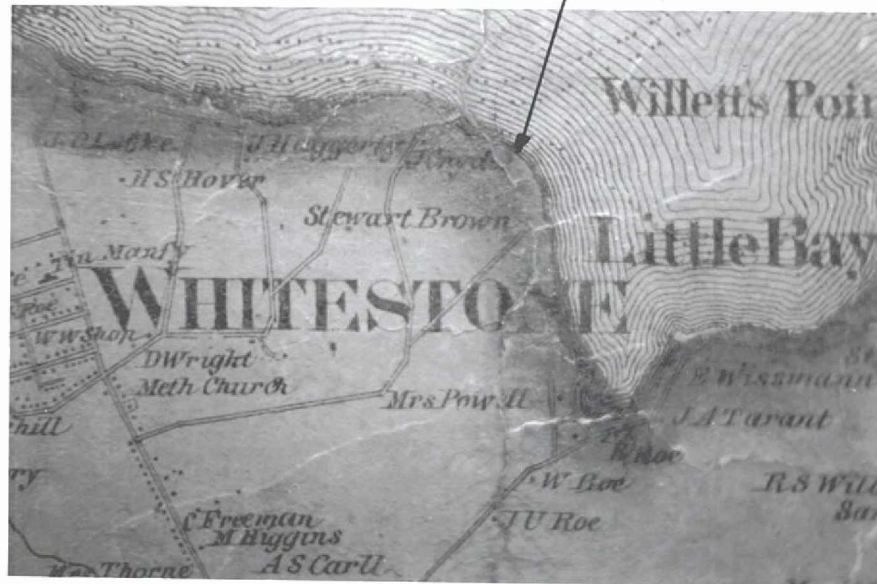


Figure 14

Source: Walling (1859)

Scale of Original: 1"=3300'

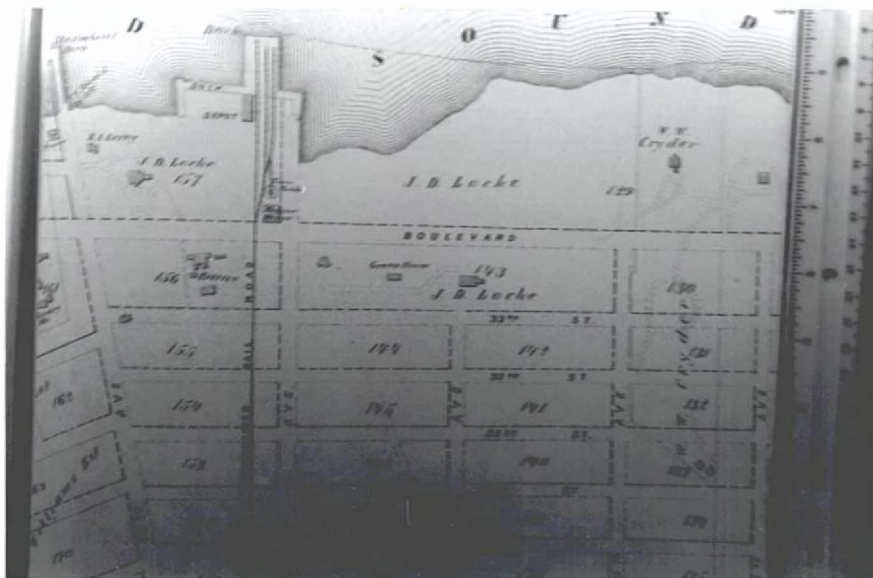


Figure 15
 Source: Beers (1873: Plate 83)
 Scale of Original: 1"=300'
 (Project Location East of Area Shown)

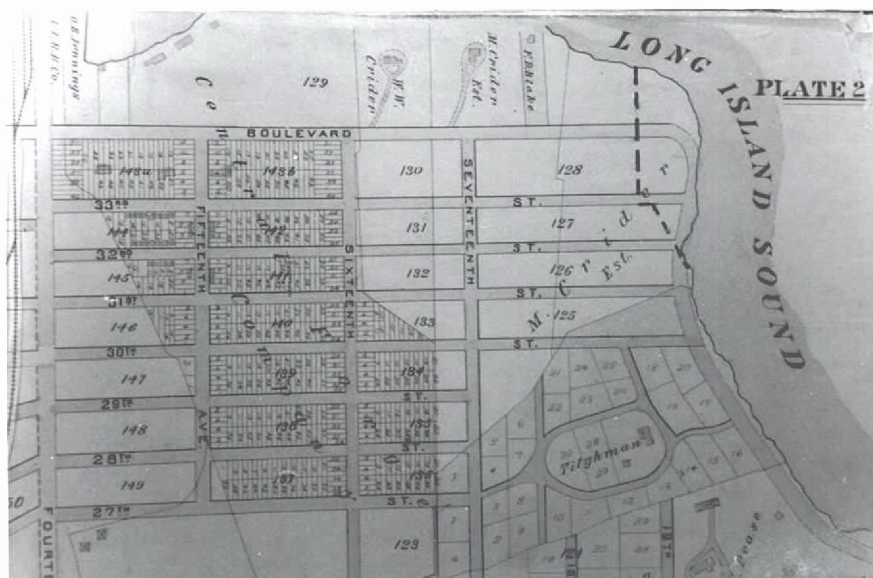


Figure 16
 Source: Wolverton (1891: Plate 23)
 Scale of Original: 1"=400'
 ---- Approximate Project Area Boundaries

102

WHITESTONE

SCALE 600 FT TO AN INCH



Figure 17

Source: Sanborn (1903)

---- Approximate Project Area Boundaries

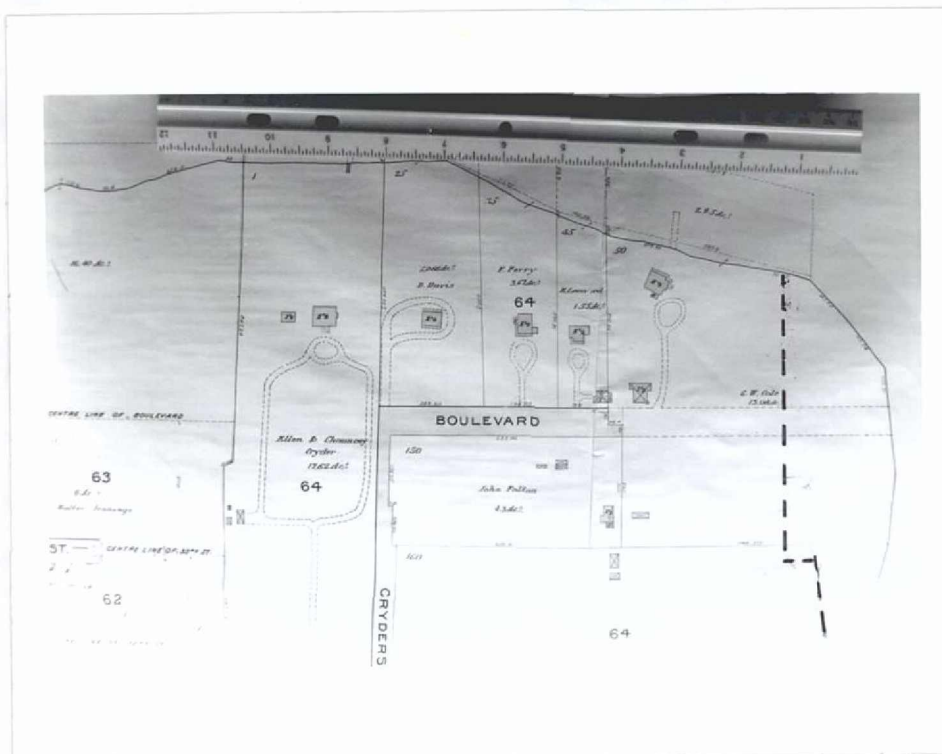
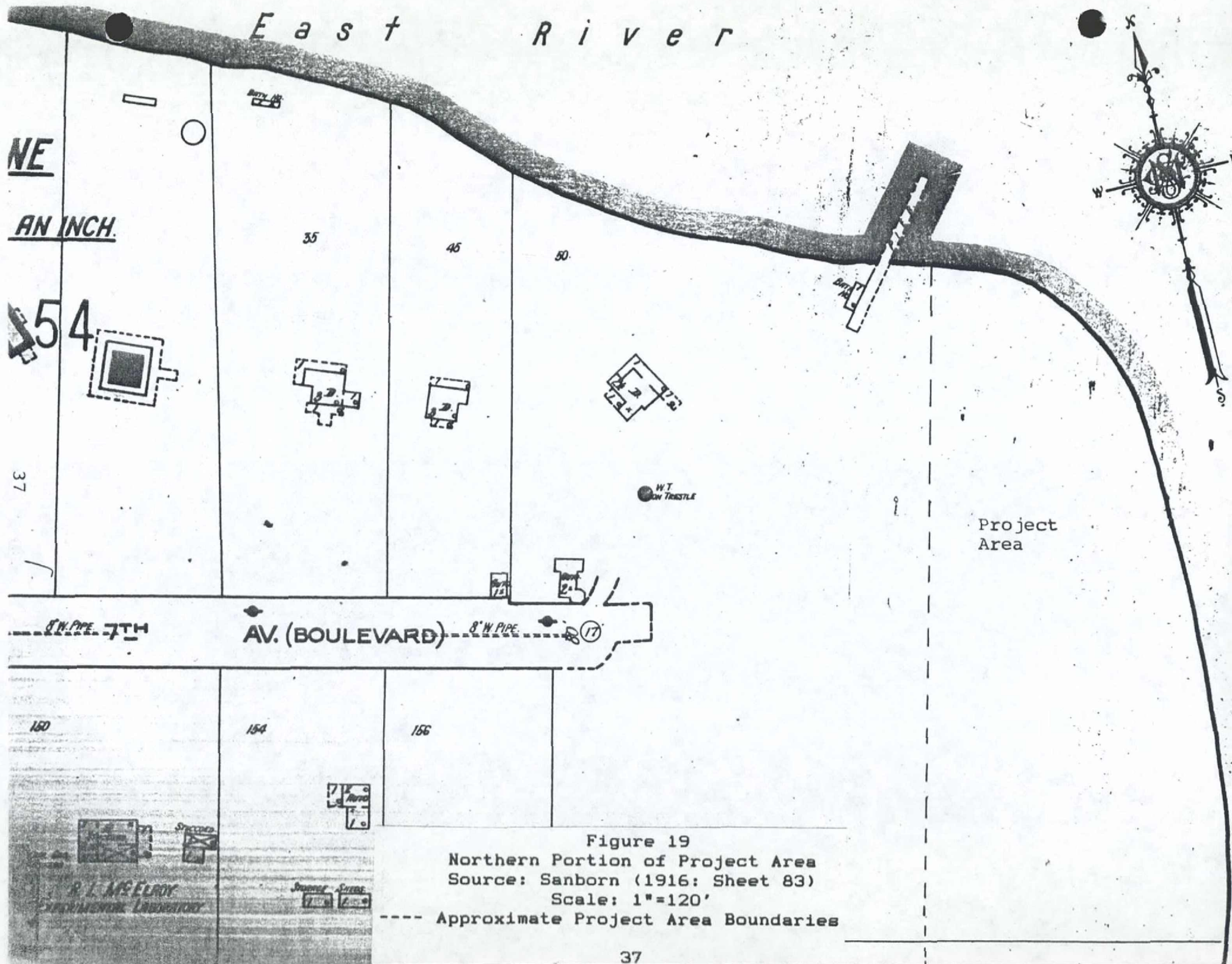


Figure 18
 Northern Portion of Project Area
 Source: Belcher Hyde (1904: Plate 14)
 Scale of Original: 1"=160'
 ---- Approximate Project Area Boundaries



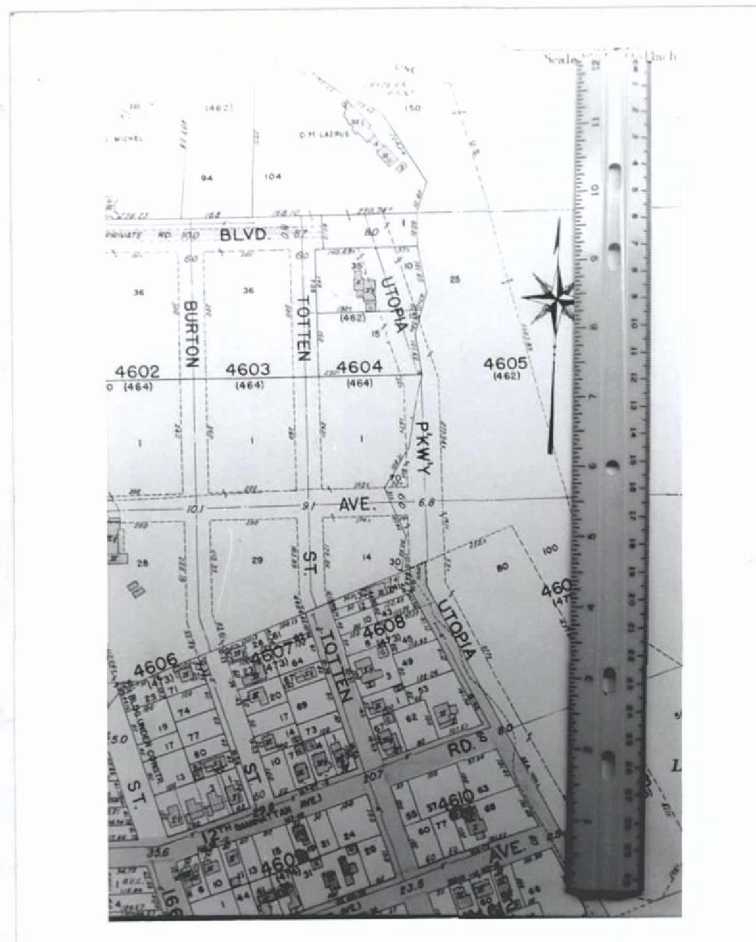


Figure 20
 Source: Belcher Hyde Inc. (1926: Plate 12)
 Scale of Original: 1"=160'

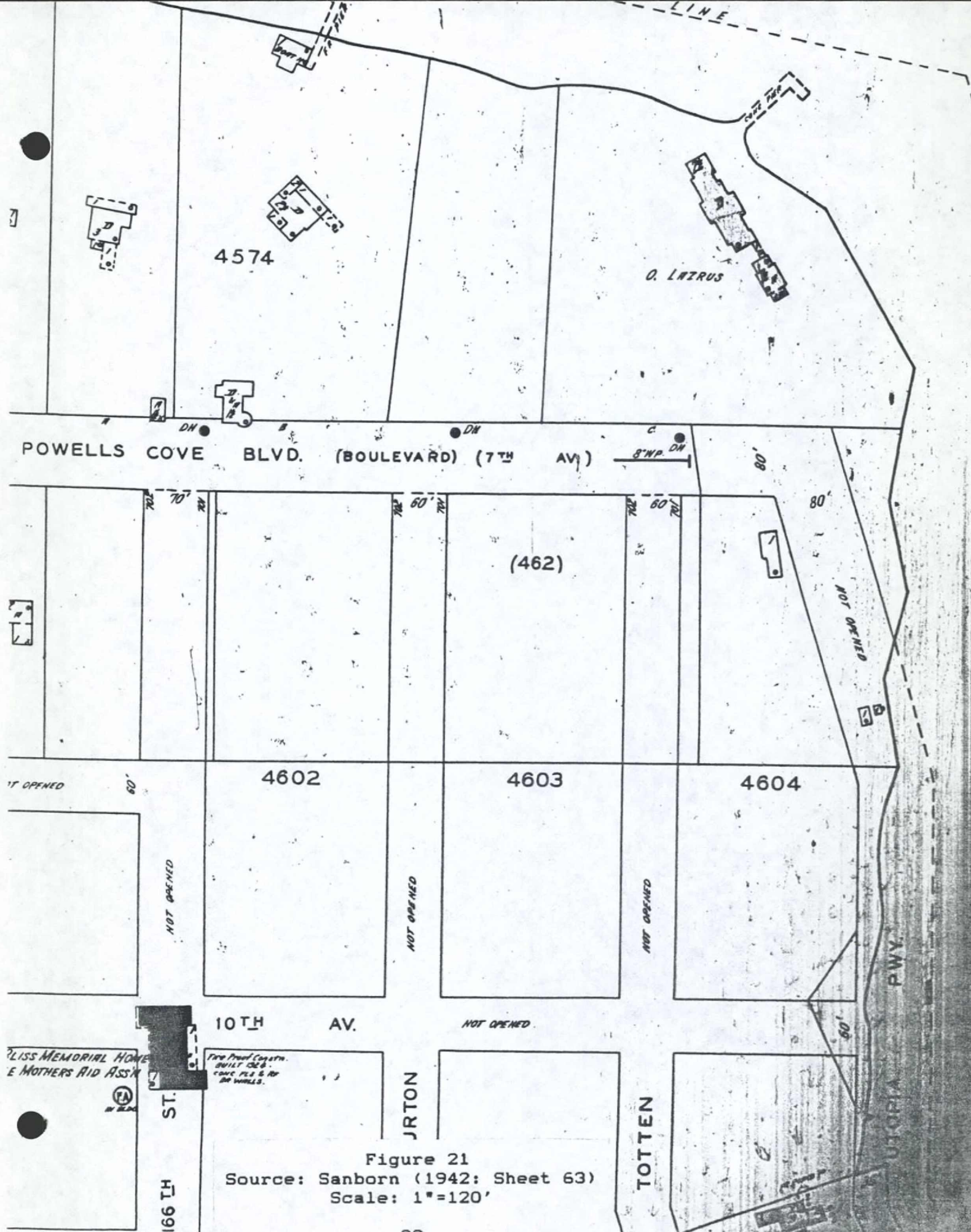


Figure 21
Source: Sanborn (1942: Sheet 63)
Scale: 1"=120'

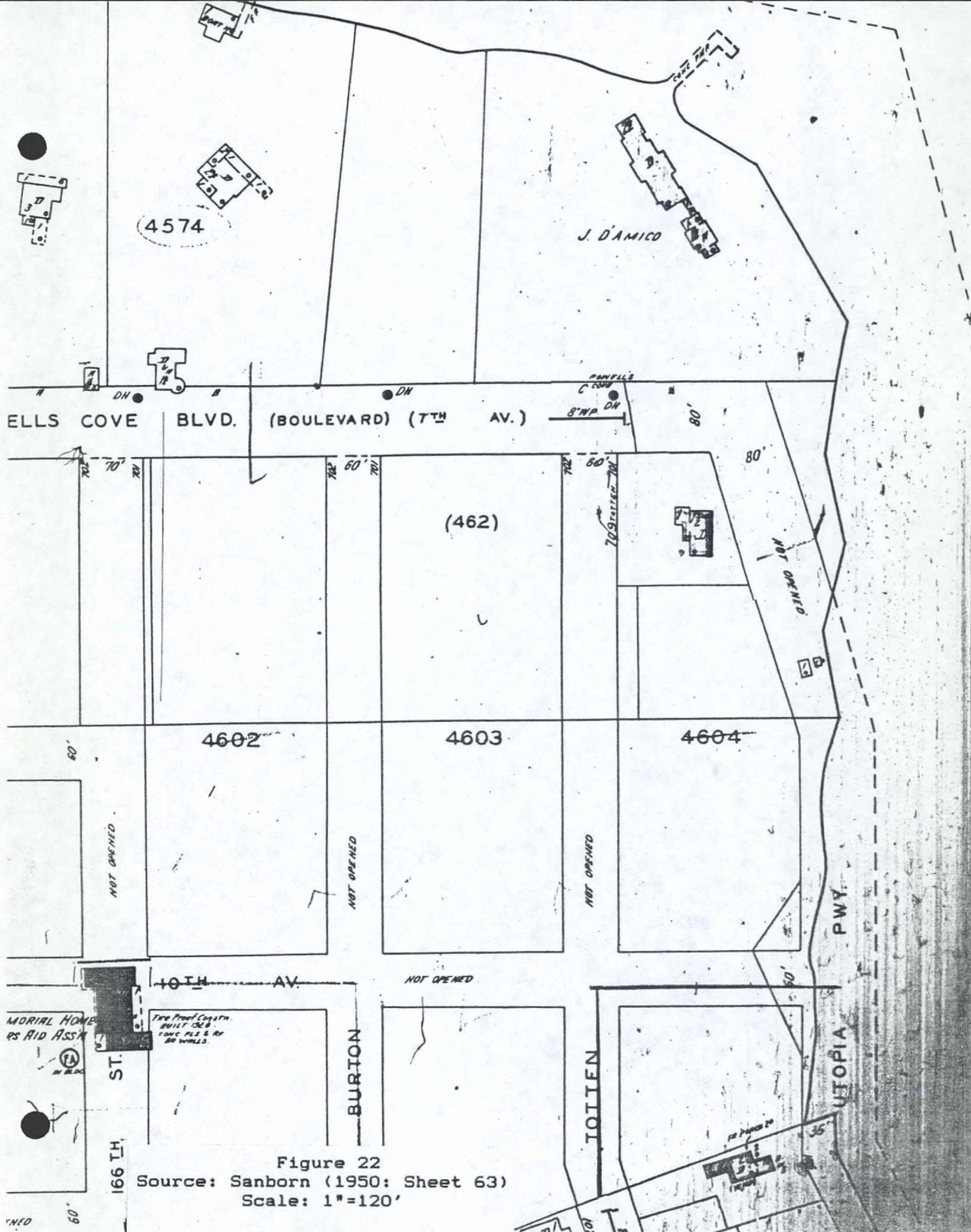


Figure 22
Source: Sanborn (1950: Sheet 63)
Scale: 1"=120'

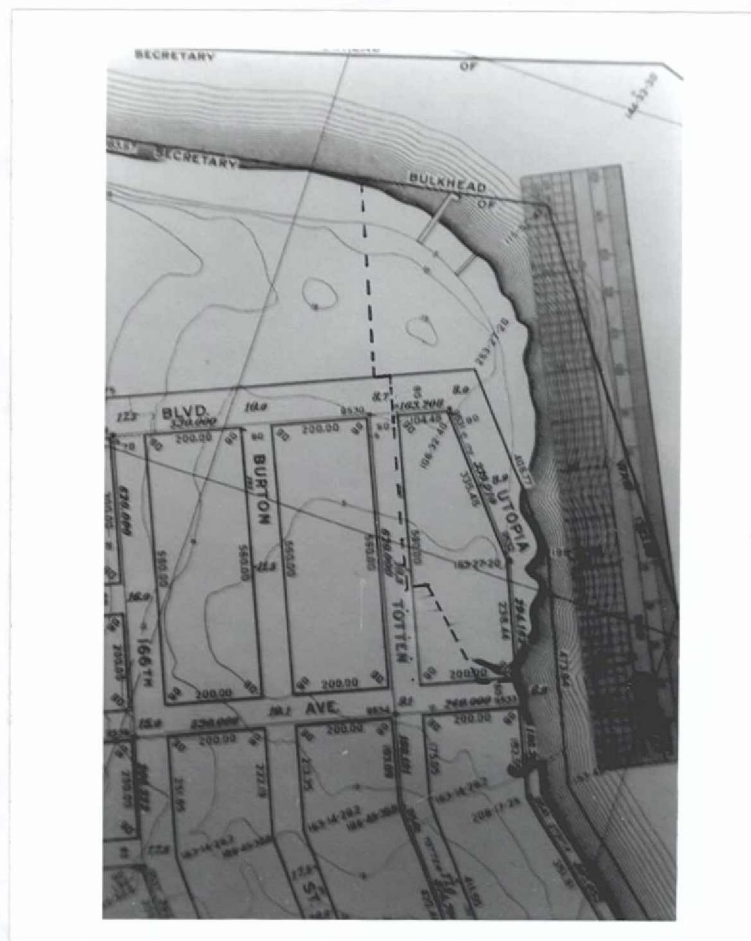


Figure 23
Source: Borough of Queens (1931: Section 59)
Scale of Original: 1"=200'; 5' contours
---- Approximate Project Area Boundaries

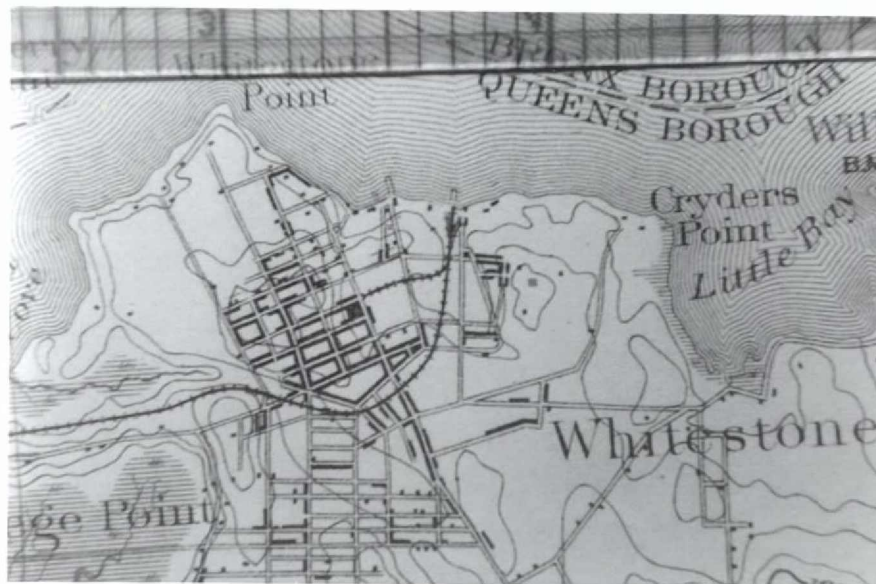


Figure 24
Source: U.S.G.S. (1900)
Scale of Original: 1:62500; 20' contours

PLATES



Plate 1
Block 4602, Lot 50
View North



Plate 2
Block 4604, Lot 15 - Southeastern Portion
View East



Plate 3
Asphalt Parking Area and Standing Structure
View North From Block 4604, Lot 35



Plate 4
Asphalt Driveway and Landscaped Areas
West of Standing Structure - Block 4574
View Southeast



Plate 5
Concrete Surface and "Patio" Area
East of Structure - Block 4574
View South



Plate 6
Rip-Rap Along Beach
View North at 9th Street



Plate 7
Remains of Wooden Bulkhead and Rip-Rap
Block 4602, Lot 50
View North

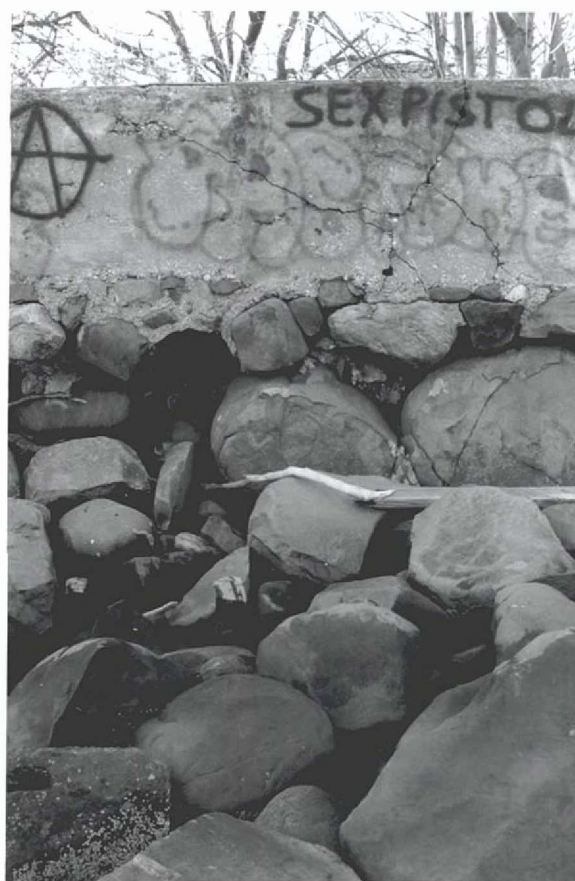


Plate 8
Rip-Rap and Bulkhead Wall
Block 4604, Lot 35
View West



Plate 9
Edge of Pool, Southern Portion - Retaining Wall in Background
Block 4604, Lot 35
View East



Plate 10
Pool - Southeast Corner
Block 4604, Lot 35
View Southeast

APPENDIX A

New York State Museum Response to Information Request



THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, N.Y. 12230

NEW YORK STATE MUSEUM
DIVISION OF RESEARCH AND COLLECTIONS

Please direct correspondence to:

**NEW YORK STATE MUSEUM
Prehistoric Site File
Cultural Education Center, RM 3122
State Plaza
Albany, N.Y. 12230**

Search Results:

Date: January 24, 1989

To: Arnold Pickman
150 East 56th Street
New York, N.Y. 10022

Area Searched: Flushing, 7.5', (see attached map).

In response to your request our staff has conducted a search of our data files* for locations and descriptions of prehistoric archaeological sites within the area indicated above.

The results of the search are given below. Please refer to the NYSM site identification numbers when requesting additional information.

If specific information requested has not been provided by this letter, it is likely that we are not able to provide it at this time, either because of staff limitations or policy regarding disclosure of archaeological site data. Any questions regarding this reply can be directed to Beth Wellman, at (518) 474-5813 or the above address, mark as Atten: Site File.

*[NOTE: Our files normally do not contain historic period sites or architectural properties. Contact: The Survey Registration & Planning Unit, Office of Parks, Recreation & Historic Preservation, Agency Building #1, Empire State Plaza, Albany NY, at (518) 474-0479 to begin the process of collecting data on these types of sites.]

RESULTS OF THE FILE SEARCH:

The following sites are located in or within one mile of the project area:

See attached list.

Code "ACP" = sites reported by Arthur C. Parker in The Archeology Of New York, 1922, as transcribed from his unpublished maps.

SEARCH CONDUCTED BY: B.W. (initials)
Staff, Office of the State Archaeologist

EVALUATION OF ARCHAEOLOGICAL SENSITIVITY FOR PREHISTORIC (INDIAN) SITES

Examination of the data suggests that the location indicated has the following sensitivity rating:

- ☒ HIGHER THAN AVERAGE PROBABILITY OF PRODUCING PREHISTORIC ARCHAEOLOGICAL DATA.
- ☐ AVERAGE PROBABILITY OF PRODUCING PREHISTORIC ARCHAEOLOGICAL DATA.
- ☐ LOWER THAN AVERAGE PROBABILITY OF PRODUCING PREHISTORIC ARCHAEOLOGICAL DATA.
- ☐ MIXED PROBABILITY OF PRODUCING PREHISTORIC ARCHEOLOGICAL DATA.

The reasons for this finding are given below:

- ☐ A RECORDED SITE IS INDICATED IN OR IMMEDIATELY ADJACENT TO THE LOCATION AND WE HAVE REASON TO BELIEVE IT COULD BE IMPACTED BY CONSTRUCTION.
- ☐ A RECORDED SITE IS INDICATED SOME DISTANCE AWAY BUT DUE TO THE MARGIN OF ERROR IN THE LOCATION DATA IT IS POSSIBLE THE SITE ACTUALLY EXISTS IN OR IMMEDIATELY ADJACENT TO THE LOCATION.
- ☒ THE TERRAIN IN THE LOCATION IS SIMILAR TO TERRAIN IN THE GENERAL VICINITY WHERE RECORDED ARCHAEOLOGICAL SITES ARE INDICATED.
- ☒ THE PHYSIOGRAPHIC CHARACTERISTICS OF THE LOCATION SUGGEST A HIGH PROBABILITY OF PREHISTORIC OCCUPATION OR USE.
- ☐ THE PHYSIOGRAPHIC CHARACTERISTICS OF THE LOCATION SUGGEST A MEDIUM PROBABILITY OF PREHISTORIC OCCUPATION OR USE.
- ☐ THE PHYSIOGRAPHIC CHARACTERISTICS OF THE LOCATION ARE SUCH AS SUGGEST A LOW PROBABILITY OF PREHISTORIC OCCUPATION OR USE.
- ☐ EVIDENCE OF PRIOR DESTRUCTIVE IMPACTS FROM CULTURAL OR NATURAL SOURCES SUGGESTS A LOSS OF ORIGINAL CULTURAL DEPOSITS IN THIS LOCATION.
- ☐ THE PHYSIOGRAPHIC CHARACTERISTICS OF THE LOCATION ARE MIXED, A HIGHER THAN AVERAGE PROBABILITY OF PREHISTORIC OCCUPATION OR USE IS SUGGESTED FOR AREAS IN THE VICINITY OF STREAMS OR SWAMPS AND FOR ROCK FACES WHICH AFFORD SHELTER. DISTINCTIVE HILLS OR LOW RIDGES HAVE AN AVERAGE PROBABILITY OF USE AS A BURYING GROUND. LOW PROBABILITY IS SUGGESTED FOR AREAS OF EROSIONAL STEEP SLOPE.
- ☒ PROBABILITY RATING IS BASED ON THE ASSUMED PRESENCE OF INTACT ORIGINAL DEPOSITS, POSSIBILITY UNDER FILL, IN THE AREA. IF NEAR WATER OR IF DEEPLY BURIED, MATERIALS MAY OCCUR SUBMERGED BELOW THE WATER TABLE.
- ☐ INFORMATION ON SITES NOT RECORDED IN THE N.Y.S. MUSEUM FILES MAY BE AVAILABLE IN A REGIONAL INVENTORY MAINTAINED AT THE FOLLOWING LOCATION(S). PLEASE CONTACT:

COMMENTS:

ARCHAEOLOGICAL SITE FILE SEARCH
NEW YORK STATE MUSEUM
CULTURAL EDUCATION CENTER
ALBANY, NEW YORK

NYSM SITE #	OTHER SITE #'S	SITE NAME	TIME PERIOD	SITE TYPE	SOURCE OF DATA	15' QUAD NAME	7.5' QUAD NAME	REPORTER NAME	PROJECT NAME OR #
4541	ACP QUNS	NO INFO	NO INFO	TRAC ES OF OCCU PATI ON		HARLEM	FLUSHING	PARKER	NO INFO

APPENDIX B

Boring Logs and Engineers Report



DAMES & MOORE

A PROFESSIONAL LIMITED PARTNERSHIP

6 COMMERCE DRIVE, CRANFORD, NEW JERSEY 07016-1101 (201) 272-8300

July 7, 1987

Kiska Developers, Inc.
400 Madison Avenue
Suite 907
New York, New York 10017

Attention: Mr. Erden Arkan

Gentlemen:

Dames & Moore is pleased to submit this letter report summarizing the findings of our investigation at the Totten Avenue, New York property.

Under the supervision of a Dames & Moore geologist, two borings were advanced, one in each lot of the property. The borings were sampled at 5-foot intervals using a standard split-spoon sampler driven by a 140-pound weight falling 30 inches. Boring B-1 was installed in "Parcel 1" (as defined in the blueprint furnished by the client's attorney). Approximately 10 feet of fill overlay a dense "till" in that location. Boring B-2 was installed in "Parcel 2" and it revealed approximately 3 feet of fill overlying a dense "till".

The area covered by the two borings represents only a small percentage of the total area of the property, and variation across the property is to be expected. Nevertheless, these borings are representative of the average subsurface conditions. It is our opinion that these soils are suitable for spread footing foundations and have a high load bearing capacity. However, further investigation by appropriately placed borings will be necessary in order to properly design a foundation, as well as satisfy the local building code.

Attached are copies of the boring logs and your blueprint with the boring locations marked on it.

Please do not hesitate to contact us if you have any questions or if we can be of further assistance to you.

Very truly yours,

DAMES & MOORE

William F. Mercurio
Manager

WFM/jhm
Attachments

Dames & Moore

DRILLING CONTR. **PYTHON**
No. 78451

BY **T. TOSKOS**
DATE **01/02/02** CHK'D BY
1.1 (3) (REV 11-00)

LOCATION OF BORING

SEE BLUEPRINT

JOB NO.

CLIENT

LOCATION

DRILLING METHOD:

HOLLOW STEM AUGERS

BORING NO.

81

SHEET

1 of 2

SAMPLING METHOD:

STANDARD SPLIT SPOON (2" O.D.)
140 lb hammer falling 30"

DRILLING

START

TIME

9:30

FINISH

TIME

11:30

WATER LEVEL

10.00

TIME

DATE

07/02

CASING DEPTH

10.00

DATE

07/02/02

DATE

07/02/02

DATUM **MSL**

ELEVATION **N 4.3**

SAMPLER TYPE	INCHES DRIVEN RECOVERED	DEPTH OF CASING	SAMPLE NO. SAMPLE DEPTH	BLOWS/FT. SAMPLER	NUMBER OF RINGS	DEPTH IN FEET	SOIL GRAPH
SPT	24 18	0	S1 0-2	15		0	SW
						1	
						2	
						3	
						4	
SPT	24 0	5	S2 5-7	10		5	SW
						6	
						7	
						8	
						9	
SPT	24 0	8	S3 8-10	4		10	ML SM
						11	
						12	
						13	
						14	
SPT	24 18	10	S4 10-12	51		15	SW
						16	
						17	
						18	
						19	
						20	

SURFACE CONDITIONS:

VEGETATED SAND, BEHIND RIP-RAP AND
WOOD PILES

GRAY FINE SAND TO FINE GRAVEL, DENSE, DRY

BLACK FINE TO ^{MEDIUM} COARSE SAND, TRACE WAXES
SAND, MEDIUM DENSE, WET

GRADING:

BLACK FINE TO COARSE SAND, VERY LOOSE, WET

GREEN, SILT AND FINE SAND, TRACE CLAY,
HARD, WET

GREEN, MOTTLED YELLOWISH RED, SILT AND
SAND INTERBEDDED WITH SAND AND
GRAVEL, HARD/VERY DENSE, MOIST

No. 78452

DRILLING CONTR.

BY

CHK'D BY

DATE

8.1 (3) (REV. 11-87)

LOCATION OF BORING

JOB NO.

CLIENT

LOCATION

DRILLING METHOD:

BORING NO.

81

SHEET

2 of 2

SAMPLING METHOD:

DRILLING

WATER LEVEL

START

FINISH

TIME

TIME

DATE

DATE

DATE

CASING DEPTH

DATUM

ELEVATION

SAMPLER TYPE	INCHES DRIVEN INCHES RECOVERED	DEPTH OF CASING	SAMPLE NO. SAMPLE DEPTH	BLOWS/FT. SAMPLER	NUMBER OF RINGS	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS:
SPT	24 10	20	56 20.4	35		20	SW	LIGHT BROWN, FINE TO COARSE SAND, TRACE SILT, DENSE, MOIST
						21		
						22	ML	LIGHT BROWN, MOTTLED GRAY, SILT, SOME CLAY
						23		
						24		
						25		
SPT	24 12	25	57 25.2	34		26		LIGHT BROWN, FINE TO COARSE SAND, SOME FINE GRAVEL, TRACE SILT AND CLAY, VERY DENSE, MOIST.
						27		
						28		
						29		
						30		
						31		
						32		
						33		
						34		
						35		
						36		
						37		
						38		
						39		
						40		
						41		
						42		
						43		
						44		
						45		
						46		
						47		
						48		
						49		
						50		
						51		
						52		
						53		
						54		
						55		
						56		
						57		
						58		
						59		
						60		

BORING COMPLETED AT A DEPTH OF
27 FEET ON 07/02/87

WATER ENCOUNTERED AT 10.00 FEET

CASING WAS NOT USED

BORING BACKFILLED TO GROUND
SURFACE ON 07/02/87

DRILLING CONTRACT NO. 78453

DATE 07/02/09 CHK'D BY T 102403

LOCATION OF BORING		JOB NO.	CLIENT	LOCATION
SEC BLUEPRINT		DRILLING METHOD: HOLLOW STEM AUGERS		BORING NO. B2
		SAMPLING METHOD: STANDARD SPLIT SPOON (2" O.D.) 140 lb HAMMER FALLING 30"		SHEET 1 of 2
DATUM <u>MSL</u>		WATER LEVEL 13.00		START TIME 11:30
ELEVATION <u>79.5</u>		TIME		FINISH TIME 17:30
		DATE 07/02		DATE
		CASING DEPTH 15.00		DATE 07/02

SAMPLER TYPE	INCHES DRIVER INCHES RECOVERED	DEPTH OF CASING	SAMPLE NO. SAMPLE DEPTH	BLOWS/FT. SAMPLER	NUMBER OF RINGS	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS:
SPT	24 22	0	S1 25-25.3			0		PAVED PARKING LOT BEHIND STONE AND CEMENT BULKHEAD
						1	ML	BLACKTOP AND SUBGRADE
						2		LIGHT BROWN SILT AND CLAY, TRACE SAND, SLIGHTLY MOIST, VERY SOFT
						3		
						4		
						5		
SPT	24 20	5	S2 51	72		6	SW	LIGHT BROWN, FINE TO COARSE SAND, TRACE SILT AND CLAY, LAYERED, VERY DENSE, DRY
						7		
						8		
						9		
						10		
SPT	24 6	10	S3 10.12	85		11		LIGHT BROWN, FINE SAND, TRACE SILT AND CLAY, TRACE GRAVEL, VERY DENSE, DRY
						12		
						13		
						14	SW	LIGHT BROWN, FINE TO COARSE SAND, TRACE FINE GRAVEL, VERY DENSE SATURATED
						15		
SPT	24 18	15	S4 15.12	80		16	SP	LIGHT BROWN, FINE SAND, TRACE COARSE SAND AND GRAVEL, BEDDED, VERY DENSE, MOIST
						17		
						18		
						19		
						20		

Dames & Moore

LOCATION OF BORING				JOB NO.		CLIENT		LOCATION	
DRILLING METHOD:								BORING NO. <div style="font-size: 1.5em; text-align: center;">B2</div>	
SAMPLING METHOD:								SHEET <div style="font-size: 1.5em; text-align: center;">2 of 2</div>	
WATER LEVEL								DRILLING	
TIME								START TIME	
DATE								FINISH TIME	
CASING DEPTH								DATE	

DATUM _____ ELEVATION _____

SAMPLER TYPE	INCHES DRIVER INCHES RECOVERED	DEPTH OF CASING	SAMPLE NO SAMPLE DEPTH	BLOWS/FT. SAMPLER	NUMBER OF RINGS	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS:
SPT	24 18	20	SS 20.2	23		20	SW	LIGHT BROWN, FINE TO COARSE SAND, DENSE, SATURATED LIGHT BROWN, FINE TO MEDIUM SAND, TRACE SILT, CROSS BEDDED, DENSE, MUDST
						21		
						22		
						23		
SPT	24 12	25	SC 25.2	104		24		VARIGATED FINE TO COARSE SAND, TRACE BIOTITE AND MUSCOVITE, SOME GRAVEL <u>VERY DENSE</u> .
						25		
						26		
						27	SW	
SPT	24 8	30	ST 30.3	106		28		BORING COMPLETED AT A DEPTH OF 31 FEET ON 07/02/87 WATER ENCOUNTERED AT 13.00 FT ON 07/02/87 NO CASING USED BORING BACKFILLED TO SURFACE ON 07/02/87
						29		
						30		
						31		
						32		
						33		
						34		
						35		
						36		
						37		
						38		
						39		
						40		
						41		
						42		
						43		
						44		
						45		
						46		
						47		
						48		
						49		
						50		

NO. 78454 DRILLING CONTR.

CHK'D BY

DATE

(3) (REV. 11-80)

APPENDIX C .

Site Survey

